P.O. Box 85518
Lincoln, NE 68501-5518

CHANGE SERVICE REQUESTED

September 21, 2007
Volume 29 Number 38
www.processor.com

PROCESSOR
Products, News & Information Data Centers Can Trust. Since 1979

Virtualization Venture

What To Know Before Getting Started

by Christian Perry

• • •

By now, many enterprises are familiar with the myriad benefits virtualization technologies offer. However, despite virtualization's vast potential for improving efficiency and saving money, companies can't realize those benefits by simply dropping virtualization into existing environments with little or no hassle. While these technologies can help almost any enterprise, managers must give serious consideration to how they approach its integration.

"Virtualization is a highly complex technology," says Nicolas Keller, director of platform products with Rackspace Managed Hosting (www.rackspace.com). "Although businesses can consolidate infrastructures consisting of hundreds of servers down to a few dozen, the management and administration is much more complicated. This new paradigm requires new skills and brings whole new complexities—new provisioning technologies, greater emphasis on shared storage, new networking skills, etc."

Clearing The Air

Andrew Hillier, CTO and co-founder of CiRBA (www.cirba.com), warns that

misconceptions about virtualization also can impact enterprises looking to get their feet wet with the technology. First, he says, managers must be careful not to promise overly high utilization levels with virtualization.

For example, he points to Moore's Law, which dictates that servers double in speed every 18 months, so refreshed servers on a three-year lease cycle will be roughly four times faster than those they replace. In turn, this means that enterprises need 4:1 ratios just to break even, and if they're virtualizing nine-year-old equipment, they'll need

Go to Page 13

Security Vulnerabilities To Watch For

Knowing What You're Looking For Always Helps

by Paul Ferrill

• • •

Protecting your corporate IT assets from would-be attackers is an important job. For many small to medium-sized enterprises, the job frequently falls into the lap of an IT manager with multiple other, equally important jobs. Keeping up with the latest threats and vulnerabilities could be a full-time job, depending on the amount of exposure and the risk associated with an incident.

Identifying potential trouble spots and understanding the associated risks involved is a good first step. So where does a part-time IT security manager go to get the latest and greatest information that's relevant to his situation? Go to the source, meaning start with your security hardware and software vendors.

Applications represent another significant vulnerability. "Internet Explorer is the most common application that IT administrators should be concerned with," according to Dr. Chenxi Wang, principal analyst of security and risk management for Forrester Research. "The Windows operating system

Go to Page 13

Identifying potential trouble spots and understanding the associated risks involved is a good first step.

In This ISSUE

COVER FOCUS

How Tos

Do you keep hearing about the latest data center trends but don't know where to begin? We talked with product manufacturers and other experts to come up with tips and advice to help.

Virtualization Venture 1
Cradle-To-Grave Data Administration 9
Add Wireless Access Throughout Your SME 10
Ingredients For A Successful VoIP Deployment 11

TECH & TRENDS

Security Vulnerabilities To Watch For | 1

Protecting your corporate IT assets from would-be attackers is an important job. So where does an IT security manager go to get the latest and greatest information that's relevant to his situation?

Strategic Vendors | 24

While the utopian hope for integrated security might seem like a pipe dream for some IT shops, unified threat management appliances and all-in-one security suites have been finding favor, especially in SMEs.

WAN Optimization Market Overview | 25

With a variety of broadband technologies competing for market share, high-performance WAN links have become cost-effective for both large and small business, yet demand on these pipes still often outstrips their capacity.

Archiving Email | 26

It is essential to find a way to leverage and manage the data within emails so it can be easily searched and used. There are legal requirements, too, which must be met.

Product Releases | 16

■ **A10 Networks** introduced the latest addition to its EX Series family of bandwidth management with identity appliances, the EX 1000. ■ **Avocent** introduced the newest version of its DSView 3 management software that allows IT administrators to access and control their virtual environment. ■ **CCTsoftware** announced PDA Control, a program for tracking PDA devices within companies. ■ **Colasoft** released a Windows packet and protocol analyzer for network troubleshooting. ■ **Fluke Networks** added new SetSecure option to its enterprise and telecommunication network testing, monitoring, and analyzing NetTool Series II Network Tester. ■ **NetApp** announced the NetApp FAS2000 line to help customers consolidate DAS into a single networked solution. ■ **Overland Storage** released the REO 4500c D2D VTL appliance. ■ **Para Systems** released the Minuteman Entrust Line Interactive UPS Series. ■ **Supermicro** introduced new quad-core, quad-processor servers in 1U, 2U, and 4U configurations.

EACH WEEK

Upcoming IT Events 4
MarketPlace News 4
Six Quick Tips 5
Product Releases 16
Opinions 22
Products At Work 23
What's Happening.....27
Three Questions 27

The Processor.com home page is updated each week with new articles and hardware news to help you keep current. **Visit www.processor.com today.**

Subscribe Today / Address Change Form

For address change, fill out form below with new information and mail or fax.

PLEASE PRINT

Phone: (_____)_____ Fax: (_____) _____

Contact Name: _____

Company Name: _____

Address: _____

City: _____ State: _____ Postal Code: _____

Country:_____

Email: _____ Web Address: _____

1. What is the size of your company (how many employees)?

☐ Less than 10 ☐ 200 to 499
☐ 10 to 99 ☐ 500 to 999
☐ 100 to 199 ☐ 1,000+

2. How often do you purchase computer hardware/software?

☐ Weekly ☐ Quarterly
☐ Bi-weekly ☐ Annually
☐ Monthly ☐ No Involvement

3. What is your annual computer hardware/ software purchasing budget?

☐ $0 to $9,999 ☐ $100,000 to $249,999
☐ $10,000 to $24,999 ☐ $250,000 to $499,999
☐ $25,000 to $49,999 ☐ $500,000 to $999,000
☐ $50,000 to $99,999 ☐ $1,000,000+

PROCESSOR

© Copyright 2007 Sandhills Publishing Company.
All rights reserved.

Subscriptions: (800) 819-9014
Subscriptions Local: (402) 479-2132
Subscriptions Fax: (402) 479-2193
Mail Form To:
P.O. Box 85518, Lincoln, NE 68501-5518
Overnight Delivery:
120 West Harvest Drive, Lincoln, NE 68521

www.Processor.com

Advertisers Index

COMPANY	PAGE
360 TECHNOLOGIES	30
A10 NETWORKS	3
ADAPTEC INC	17
ASA COMPUTERS	29
ATLAS SALES AND RENTALS	15
AVTECH SOFTWARE INC	15
BARRACUDA NETWORKS	15
BAYTECH	14
BROADRACK TECHNOLOGY	14
CIPHEROPTICS	3
COMPUREX SYSTEMS	31
COMPUSOURCETECH	30
COMPUTER CONNECTION	31
CYBER SWITCHING	15
DATA AIRE INC	22
DATA CENTER RESOURCES	3
DATA NETWORKS INTERNATIONAL	30
DATA RELIANCE CORPORATION	31
DATAMEDIA SOURCE	31
DIGITAL BROTHERS GROUP	31
DMD SYSTEMS RECOVERY	16
DRIVE SOLUTIONS INC	30
DYNAPOWER USA	16
EASYSYNC LTD	15
ELI SYSTEMS INC	31
ENHANCE TECHNOLOGY	15
EQUIPMENT MANAGEMENT INC	30
ETASIS USA INC	17
GLOBAL PRINTER SERVICES	30
HELLERMANN-TYTON	32
HERGO ERGONOMIC SUPPORT SYS	15
HERGO ERGONOMIC SUPPORT SYS	24
I T TRADING	31
I-TECH CO	15
IBM	8
INBUS ENGINEERING	30
INFORMATION SUPPORT CONCEPTS	8
INTERNATIONAL SYSTEMS MGT	31
ISTOR NETWORKS INC	8
MEDIA RECOVERY	30
MOVINCOOL	22
N S A	10
NLE	31
NORTHWEST PERFORMANCE SOFTWARE	16
NRS INC	31
PACE / BUTLER CORP	31
PEGASUS COMPUTER MARKETING	16
PIVOT3	8
PREMIER SOLUTIONS CO	10
PULIZZI ENGINEERING INC	20
PYRAMID COMPUTERS USA	10
RACKMOUNT SOLUTIONS	15
REGENT SALES INC	31
ROSE ELECTRONICS	7
RWU INTERNATIONAL COMPUTERS	16
SANS DIGITAL	15
SEASONIC	21
SERVER TECHNOLOGY	14
STOREVAULT	18
TALLY GENICOM	21
TANGENT COMPUTERS INC	5
VECMAR COMPUTER SOLUTIONS	31
ZEROWAIT	30
ZIPPY USA INC	12

NETWORKING & VPN

AUGUST 24, 2007

Concerned About Application Performance, Network Authentication & Guest Access?

A10 Networks IDaccess & AX Series Provide Industry's Best Price/Performance

TWO NEW PRODUCTS from A10 Networks are designed to provide reliable, cost-effective options for enterprises looking to accelerate and secure their applications.

IDaccess: Authentication & Guest Access

IDaccess is a family of purpose-built, security-hardened 1U appliances that integrate RADIUS, DHCP, Guest Access, and A10's unique IP-to-ID Service. The appliances provide the industry's most cost-effective, integrated network authentication and guest network access solution in their class.

The IDaccess appliances support comprehensive authentication methods and an array of back-end servers. By combining authenticated DHCP with a guest access portal, network administrators have a powerful and flexible network management tool to support all network and guest authentication needs.

IDaccess eases the burden on IT administrators by centralizing authentication for guests and employees, while ensuring guests can only access the resources they need.

Guest Access. Provides a user-friendly and intuitive interface that lets front desk personnel create and manage guest accounts. IDaccess supports authentication for both internal users and guests in a single appliance, eliminating the need to manage multiple devices.

The A10 Networks AX Series accelerates applications, now with models for enterprises and data centers of all sizes.

IDaccess eases the burden on IT administrators by centralizing authentication for both guests and employees.

RADIUS Server. Provides authentication services and supports the latest RADIUS protocols for wireless, wired, remote access, and perimeter security applications.

IP-to-ID. Helps isolate security issues faster and improve compliance reporting by providing instant user identification for any IP or MAC address. Enables tracing of events to individuals employees.

Authenticated DHCP. Provides isolation of unauthorized users and redirects them to authenticate. This allows companies to enforce all users to authenticate without taking the effort to roll out labor-intensive technologies such as 802.1x or network access control.

Reporting. Enhance auditing and long-term record retention with rich identity-based reports, logs, and alerts for all authentication functions.

AX Series: Next-Generation Server Load Balancer

A10 Networks' AX Series is the industry's best price/performance application acceleration switch, helping enterprises maximize application availability through a high-performance and scalable application delivery platform.

The AX's ACOS (Advanced Core Operating System) architecture has garnered the company numerous awards and is revolutionary by market standards because of its native multisystems support, which includes an optimized multi-CPU architecture built from the ground up designed for performance, scalability, and reliability.

The AX's ACOS architecture scales performance across multiple decoupled CPUs and specialized programmable ASICs linearly to ensure maximum scalable performance, including when all of the features are turned on. The AX Series' aRule Advanced Scripting technology provides ultimate policy creation flexibility to deliver rich traffic inspection and switching capabilities, helping organizations adapt to ever-changing conditions and application types.

The two newest AX Series appliances, 2000 and 2100, are 2U appliances designed for enterprise data centers and server farms. The AX 2000 has two CPUs, 2GB of memory, eight Gigabit over copper ports, two G small-form factor pluggable fiber ports, and an 80GB hard drive. The AX 2100 has those same components, plus an additional two CPUs and two G small-form factor pluggable fiber ports; the 2100 also has dual 80GB RAID 1 hard drives.

All AX models feature carrier-grade hardware components, the industry's best SSL acceleration and L4-7 acceleration, support for IPv4 and IPv6, and an industry-standard command-line interface and easy-to-use GUI.

Key benefits:

- Improves user application response times
- Tuned for multiple CPUs with multiple cores
- Provides Five 9s reliability for accelerated applications
- Scales server farm capacity with advanced server load balancing
- aRule scripting language future-proofs against changing business requirements
- Provides best price/performance per watt in a compact 2U form factor

A10 Networks IDaccess & AX Series

The AX Series is the industry's best price/performance application acceleration switch; IDaccess is a family of integrated network authentication and guest access appliances

(888) 210-6363

www.A10networks.com/processor

A10 Networks

PHYSICAL INFRASTRUCTURE

SEPTEMBER 14, 2007

Power, Control & Monitor Your Data Center

Data Watch's Power Watch & Enviro Watch Work Together To Meet Your Needs

WHEN YOU'RE IN charge of a data center, the more help you can get monitoring systems and other data center conditions, the better. Data Watch's Power Watch and Enviro Watch products are ideal for just such situations.

The Power Watch product line (pictured) was designed to meet the growing need for rack-level power. Both horizontal and vertical models feature up to 60 amps, and dual-cord models can provide redundant power in a single PDU. With dual-cord models, each input cord provides source power to a separate circuit. For dual-corded servers, plug one cord into a receptacle in the "A" bank and one into the "B" bank and achieve redundancy in one PDU. The receptacle bank of each circuit is color coded for simple identification.

Power Watch's programmable current meter provides a local display and alarm for both amperage and voltage for individual circuits and the total. Simple push-button navigation and programming make the meter user-friendly, and RS-232 connectivity allows for remote access to meter readings and setting/receiving alarms.

Connect Power Watch remote PDUs to the Enviro Watch network appliance for desktop monitoring, email alerts, data logging, and graphing. Enviro Watch provides remote monitoring and administration to Power Watch PDUs and can monitor data center temperature and humidity.

Enviro Watch's multi-functional RJ-45 ports allow connection of Power Watch PDUs, temperature-only sensors, or temperature/humidity sensors.

Each unit ships with Enviro Watch software, which provides an intuitive interface for monitoring, administering, logging, graphing, and reporting features. Once a preassigned threshold is met, alerts can be sent via SNMP or email to different recipients based on the severity of the alert.

Data Watch Power Watch & Enviro Watch

Power Watch PDUs provide up to 60 amps with dual-cord versions available; bundle with the Enviro Watch appliance to monitor the PDUs and data center environmental conditions

(866) 325-1121

www.data-watch.com

DATA WATCH

SECURITY

SEPTEMBER 21, 2007

CipherOptics' Encryption Starter Kit

Platform Provides Network-Side Security For Critical Data

DATA PROTECTION HAS MOVED up the list of critical concerns for IT managers, leaving many businesses struggling to balance their requirements to keep business-critical information safe and the cost and complexity of deploying and running many existing encryption solutions.

CipherOptics has overcome many of the traditional complexities associated with traditional encryption methods with the introduction of its CipherEngine, a platform that provides network-wide encryption, says Jim Doherty, chief marketing officer. To demonstrate its effectiveness, CipherOptics has introduced the CipherEngine Starter Kit, an integrated hardware and software encryption platform in a box.

"CipherEngine is a great solution that really addresses what is probably the biggest vulnerability in networking today," Doherty says. "You drive business by moving information and data back and forth, and in the global economy of today, you often can be sending it over networks that may not have any sort of security, and in some cases you just don't trust."

The Starter Kit includes the CipherEngine software and key server, four CipherOptics Security Gateways, and four licenses. The kit is capable of providing Layer 2 and Layer 3 encryption across the network to meet internal data security requirements and compliance regulations.

The CipherEngine separates the policy and key management layer from the enforcement layer and adds MAP (Management and Policy Server) and KAP (Key Authority Point) layers. The MAP is a centralized tool for creating and distributing policies and serves as the monitoring and management portal that securely pushes policies to the KAP layer for encryption.

Doherty says the company understands there is significant and understandable skepticism in the market concerning encryption platforms. The company believes that "seeing is believing" and is marketing the starter kit to provide an easy-to-install and managed platform where businesses can test the reliability and performance for a minimal investment.

For some small businesses, the starter kit may be a large enough deployment to cover the entire network, Doherty says. For larger business, the kit will allow for the creation of a proof-of-concept installation or can be used to isolate and protect critical links within the network.

CipherEngine Starter Kit

$31,250

Easy to install and manage platform provides network-wide encryption

(877) 878-6655

www.CipherOptics.com

CIPHEROPTICS

MarketPlace NEWS

Gateway Investors Sue To Stop Acquisition

Gateway investors in Delaware and California are suing the company to stop its proposed acquisition by Acer. Gateway disclosed the suits in filings with the U.S. Securities and Exchange Commission. The Mark Alger v. Gateway suit, which was filed in California, claims Gateway's board of directors breached its fiduciary duties and that the $1.90 per share price agreed upon for the merger is "inadequate and unfair." Cin v. Clarke, filed in Delaware, says the Gateway board has not provided shareholders enough information to help them make a decision regarding approval of the merger. Acer announced in August that it plans to acquire Gateway for $710 million.

Intel Raises Outlook

Pointing to high expectations for back-to-school shopping and increased microprocessor demand, Intel has raised its financial outlook for the current third quarter. Replacing its previous forecast of revenue ranging from $9 billion to $9.6 billion, Intel now says it expects revenue between $9.4 billion and $9.8 billion. For its gross margin for the quarter, Intel said it expects to see it "in the upper end" of its predicted 52%. The company's announcement coincided with its biggest rival Advanced Micro Devices' introduction of a new and improved version of its Opteron chip for server computers.

Dell Says He Had No Role In Scandal

Dell Chairman and CEO Michael Dell says he played no role in and had no knowledge of the misconduct and discrepancies in the company's accounting that have recently been uncovered. The statement was in response to a question asked at a Citigroup Global Technology Conference where Dell spoke. He also said that he was proud of the company despite the current accounting issues. The speech marked Dell's first public comments on the scandal. Last month, Dell's Board of Directors Audit Committee announced it had found evidence that executives had manipulated the books to make quarterly earnings projections.

Number Of IM Attacks Doubles

Researchers at Akonix's IM Security Center tracked 38 malicious code attacks over IM networks last month, double the number of attacks tracked during July. New IM worms included Delf, Imagine, Lolurmom, Mimbot, and MSNHorn. So far this year, the IM Security Center, which is a collaborative effort between Akonix and several other partners, has identified 264 threats: a 50% increase compared to the same period a year ago. "The extraordinary increase in malicious code activity we've seen this August is proof positive that the IM networks have become hackers' favorite open door into corporations' computers," says Akonix VP of Marketing Don Montgomery.

iPhone Outsold All Smartphones In July

According to iSuppli, Apple's iPhone outpaced all other smartphones in its sales in the United States in July, which was the first full month the new phone was available. Including both smartphones, which have PC-like features such as email, and feature phones, which offer bonuses such as music players and cameras, the iPhone sales made up 1.8% of the total U.S. mobile handset sales in July. iPhone sales for the month were roughly the same as the most popular feature phone on the market, LG Electronics' Chocolate, and surpassed sales for RIM's BlackBerry series, all of Palm's smartphone offerings, and individual smartphone models from Nokia, Motorola, and Samsung.

Hearing Held On H-1B Bill

A U.S. House of Representatives subcommittee held a hearing on immigration reform that included a proposal to increase the H-1B visa cap to 115,000 from the current 65,000 allowed annually. Although there were 12 people scheduled to testify at the hearing, there was no one representing the high-tech industry. The bill, which was introduced by Reps. Luis Gutierrez (D-Ill.) and Jeff Flake (R-Ariz.), proposes increasing the number of H-1B visas to 115,000 and allowing a 20% annual increase up to 180,000 visas. An immigration reform bill in the Senate that included cap increases failed earlier this year.

Microsoft Open Format Rejected

A bid by Microsoft to have Office Open XML, its open document standard, recognized as an international standard by the ISO (International Organization for Standardization) and the IEC (International Electotechnical Commission) was denied. Two voting criteria were missed after five months of balloting. Out of 87 participating countries, 26% opposed the bid by Microsoft; rules state that no more than 25% of countries can oppose. In addition, the company failed to get 66% of 41 countries in a second vote. Currently, the only standardized open document format available to government buyers is OpenDocument Format, which was developed by an IBM-led consortium.

Federal IT Spending To Increase

With the constant need for better and more effective IT security, a recent study by research firm Input predicts federal IT security spending will increase 25% by 2012, up to $7.4 billion. Input expects federal agencies will spend the majority of the total, $5.4 billion, on security operations to safeguard their data systems and networks. Input also anticipates federal agencies will spend more on security education and training and protections such as antivirus programs, firewalls, intrusion detection/prevention systems, and vulnerability scanning, partly in response to the rash of stolen and lost data federal agencies experienced this year.

Spammers Plead Guilty

Four men who reportedly made more than $20 million as part of a "pump-and-dump" spam scheme plead guilty to charges of fraud. The group of men—two from Arizona, one from Michigan, and one from Paris, France—promised 15 small companies the group could take the companies public. The group then emailed press releases to drive up demand for the companies' stocks, which drove up, or "pumped," the stock prices. The men then sold ("dumped") their shares, sharing some of the profits with the companies. The four could spend up to 10 years in prison; three other men, also part of the group, pleaded guilty earlier this year.

HP Licenses Inkjet-Like Drug Delivery Platform

HP Labs has developed a skin patch designed to deliver medication in a painless, controlled manner and will license the intellectual property related to the patch to an Irish firm. In designing the drug delivery technology, HP was looking for a way to "repurpose its inkjet technology for use in new markets," according to the company. The patch, which HP says is similar to that used in HP inkjet cartridges, uses microneedles to deliver the medication. Galway, Ireland,-based Crospon will commercialize the HP technology and make it available to pharmaceutical companies.

MS Judgment Extension Requested

A group known as the California Group says it will request a five-year extension on much of the 2002 antitrust judgment against Microsoft. The group, which includes California, Connecticut, Iowa, Kansas, Minnesota, Massachusetts, and the District of Columbia, is claiming that Microsoft still has a huge lead in the OS and Web browser markets. If granted, the middleware portions of the judgment would be extended, with the exception of the portion dealing with royalties Microsoft is able to charge PC makers for Windows. The original antitrust judgment is scheduled to expire in November.

Bill Passed To Revise Patent System

By a vote of 225-175, the U.S. House of Representatives passed the Patent Reform Act, designed to overhaul the process by which courts evaluate the damages in cases of patent infringement. The current process involves courts taking into account the whole product's value when a small piece of it causes patent infringement. With the new bill, courts could assess the damages based on only the infringing piece's worth. Many large tech vendors, such as IBM and Microsoft, support the bill, but the White House Office of Management and Budget opposes it, saying the revised damage assessments could "introduce new complications and risks reducing incentives to innovate."

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 16 major companies in the technology market.

Company	Symbol	Year Ago	Sept. 5 $	Sept. 12 $	% change from previous week
Avaya	AV	$11.26	$16.80	$16.91	▲ 0.65%
BEA Systems	BEAS	$14.65	$12.51	$12.66	▲ 1.2%
Computer Associates	CA	$23.61	$25.42	$24.70	▼ 2.83%
Cisco Systems	CSCO	$22.84	$32.22	$31.78	▼ 1.37%
Dell	DELL	$21.46	$28.30	$26.76	▼ 5.44%
Electronic Data Systems	EDS	$23.97	$22.31	$21.89	▼ 1.88%
Google	GOOG	$414.69	$527.80	$522.65	▼ 0.98%
HP	HPQ	$36.40	$50.10	$48.76	▼ 2.67%
IBM	IBM	$82.24	$117.88	$116	▼ 1.59%
Intel	INTC	$19.65	$25.99	$25.46	▼ 2.04%
McAfee	MFE	$24.37	$37.86	$36.06	▼ 4.75%
Microsoft	MSFT	$26.79	$28.48	$28.93	▲ 1.58%
Oracle	ORCL	$16.25	$20.73	$20.54	▼ 0.92%
Red Hat Software	RHT	$24.23	$19.56	$19.05	▼ 2.61%
Sun Microsystems	JAVA	$5.12	$5.37	$5.66	▲ 5.4%
Symantec	SYMC	$19.88	$18.80	$19.84	▲ 5.53%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

Upcoming IT Events

- SEPTEMBER -

Government Technology Conference East 2007
September 24-27
Albany, N.Y.
www.govtech.com/events/silo.php?id=122172

- OCTOBER -

Gartner Symposium/ITxpo
October 7-12
Orlando, Fla.
www.gartner.com

Business Intelligence 2.0 Conference
October 16-18
San Diego, Calif.
www.sharedinsights.com
/events/conferences

ITEC Chicago
October 17-18
Schaumburg, Ill.
www.goitec.com

Technology + Learning Conference
October 17-19
Nashville, Tenn.
www.nsba.org

Interop
October 22-26
New York, N.Y.
www.interop.com/newyork

Data Center Decisions
October 23-24
Chicago, Ill.
www.datacenterdecisions.com

ITEC Atlanta
October 31-November 1
Atlanta, Ga.
www.goitec.com

- NOVEMBER -

ITEC Kansas City
November 7-8
Overland Park, Kan.
www.goitec.com

ITEC Philadelphia
November 14-15
Valley Forge, Pa.
www.goitec.com

Gartner Annual Data Center Conference
November 27-30
Las Vegas, Nev.
www.gartner.com/it/page.jsp?id
=502390&tab=overview

ITEC Portland
November 28-29
Portland, Ore.
www.goitec.com

- DECEMBER -

Gartner CIO Summit
December 2-4
Amelia Island, Fla.
www.gartner.com/it/page.jsp?id
=503856&tab=overview

Advertising Sales: Susan Miller
Matthew Bolling / Marcy Kremer / Julie Lausterer
Eric Cobb / Jen Clausen / David Bartholomai
Matt Johns / Johanna Bohrer / Jon Sims

Editorial Staff: Ronald D. Kobler / Corey Russman
Sheila Allen / Joy Martin / Christopher Trumble
Calvin Clinchard / Katie Sommer / Michael Sweet
Katie Dolan / Raejean Brooks
Nate Hoppe / Linné Ourada / Vince Cogley
Ashley Kumpula / Tara Simmons / Leah Houchin
Patrick Kean / Heather Hoffart / Lindsy Mercer
Marty Sems / Kylee Dickey / Josh Gulick / Andrew
Leibman / Jennifer Johnson / Nathan Lake / Blaine
Flamig / Chris Dunker / Tessa Breneman
Seth Colaner

Art & Design: Lesa Call / Fred Schneider
Carrie Benes / Ginger Falldorf / Sonja Warner
Aaron Clark / Amber Edwards / Lori Garris
Jason Codr / Andria Cogley / Lindsay Anker
Andy Arkwright

Web Staff: Laura Curry / Kristen Miller / Jessie Danekas

Subscriptions
(800) 819-9014
(402) 479-2170

Advertising & Reprints
(800) 247-4880
(402) 479-2141
FAX: (402) 479-2193

Editorial Staff
131 W. Grand Drive • Lincoln, NE 68521
editor@processor.com
FAX: (402) 479-2104

SIX QUICK TIPS

VoIP Management Goes A Long Way In Streamlining Communications

by Robyn Weisman

• • •

Small to midsized enterprises might choose to switch from traditional telephony to VoIP for many reasons. VoIP telephony allows users to make global calls without having to pay toll fees and offers better integration with the corporate network, among other pluses. But like anything else that becomes a part of an overall network, one cannot go blindly into this realm. It's important to choose the right carrier for your needs, implement the right solution, and keep the solution working.

Map Out Reasons For Migrating

Rod Montgomery, director of services at open-source VoIP services provider Digium (www.digium.com), says that you should map out the reasons why you would like to migrate to VoIP. For example, do you have multiple branch offices where a VoIP solution would circumvent toll fees and provide greater security than a traditional telephony system? Do you require better integration with Web and data applications than a VoIP solution with CTI (computer telephony integration) provides? Do you still want to pay for legacy services, which may be serving your needs quite well?

After marking out your interests in VoIP, move forward and assess your service options, says Montgomery. You should determine the specific features and integration capabilities you will need for your VoIP solution, the amount of time you are able to spend in its deployment and management, and who will have administrator access to the system.

Don't Forget It's A Real-Time Service

Steve Bannerman, vice president of marketing and product management at IP security provider Narus (www.narus.com), stresses that VoIP is a real-time service, one that is highly dependent on the infrastructure always being up. "Downtime on the infrastructure means you can't pick up the phone and make a call. It doesn't do you any good if the carrier's infrastructure has been attacked, and they credit you back $50 if you lost a $3 million deal because you couldn't make a phone call," he says.

Choose A Core Security Infrastructure

Bannerman says that you want to make sure that the VoIP carrier that you choose for your network has a core IP security solution, not just an edge IP security solution. "A lot of providers rushed to get their infrastructures up and in place so that they could start generating revenue before they put a security strategy in place, and they have tried to go back after the fact and bolt on a security solution. But a system-wide core infrastructure security solution is difficult to bolt on," Bannerman notes.

"You want to make sure that the carrier you choose has an integrated security solution that was designed into the service to begin with," Bannerman says. If a potential carrier's idea of securing its IP network consists of a bunch of firewalls or traditional intrusion detection and intrusion prevention systems in between the enterprise customer's network and the carrier's network, and it contends that this setup is sufficient to stop threats that might be attacking the voice systems on the carrier's network, that won't work, Bannerman says.

Question Potential Carriers

According to Bannerman, potential VoIP carriers need to clearly articulate that their security strategies are such that you can feel comfortable that the core of their network is secure and will not leave you subject to attacks that are increasingly being targeted at carrier infrastructures. Carriers need a security strategy that allows them to see the entire infrastructure across their network at high speeds that enable them to detect attacks very early on, in time to mitigate an attack before it brings down their servers.

"Ask [them], 'What is your strategy for securing your network, securing my connection to your network, so that I can guarantee that I am going to get the quality of service that a real-time service like VoIP demands?'" says Bannerman.

Moreover, make sure that you analyze your questions because VoIP networks differ from traditional networks. Normally, for example, having ample redundancy within a network is a plus, but the problem with redundancy is that redundant servers do not kick in until the primary servers have failed. It's critical that the carrier has components and policies in place that prevent the original servers from failing in the first place. P

BONUS TIPS

Pick a solution that uses open standards. Digium's Montgomery recommends choosing a VoIP solution that uses open standards whether the solution comes from a proprietary or open-source vendor. Compliance with open standards frees you to choose other management tools down the road. And if you get locked into a solution that doesn't use open standards, you may have difficulties evaluating your current or potential solution within your overall network.

Identify problems with VoIP appliances and related apps. Yankee Group's Alvarez stresses the importance of using network monitoring tools to test your VoIP appliances, including your servers, gateways, and routers, as well as applications used on your VoIP network. You want to solve problems proactively before they affect end users, and network monitoring tools can reduce the mean time of repair by 90%, if only because these tools save time in pinpointing problems.

Best Return On Investment: Evaluate System Usage

❍ Once you have your VoIP system in place, Digium's (www.digium.com) Rod Montgomery emphasizes the importance of periodically reviewing its system usage so that you may optimize your performance and improve network efficiency.

First off, look at your application set and consider alternate applications that may be voice-enabled, such as those that offer unified messaging, calendaring, and other personal productivity improvements for your employees and applications that may make previously tedious processes, from logging employees' times for clocking in and out to stock replenishment, easier. Analyzing and then upgrading to VoIP-based voice-enabled applications can save you a lot of time, hassle, and money.

If you use customer-facing applications, Montgomery suggests refactoring your IVR (interactive voice response) system to respond more quickly to your customers. This may include shorter lists from which to choose, as well as speech-enabling interactions.

In addition, make sure you evaluate your service charges. Check to see that you are using the most effective call routing for your network. Migrate from analog lines to a T1-PRI (Primary Rate Interface) and to SIP (Session Initiation Protocol) trunking. And be aware of possible rate abuses, particularly after-hours DISA (Direct Inward System Access) and toll fraud.

Finally, keep track of your voice traffic profile, plan for projected growth, and scale your core systems, as well as the number of handsets you will need as your VoIP network grows.

Most Obvious: Test Your VoIP Network

❍ Yankee Group analyst Vanessa Alvarez says that although testing the VoIP network your carrier provides and that your applications and services are running on seems like a no-brainer, a recent Yankee Group survey that looked at this issue showed that 70% of respondents have not tested their systems in the last two years.

According to Alvarez, it is particularly important for SMEs to test their voice and data networks on a consistent basis. She says, "When you have a large enterprise with 10,000 or 20,000 employees, losing $1,000 to $2,000 worth of bandwidth might not make a difference. But the bottom line means so much more to a small or medium-sized enterprise."

"It doesn't do you any good if the carrier's infrastructure has been attacked, and they credit you back $50 if you lost a $3 million deal because you couldn't make a phone call."

- Narus' Steve Bannerman

Simplifying Email Archiving

Tangent's DataCove Appliance Archives Email & Instant Messages

New Federal Rules of Civil Procedure, aka FRCP, require organizations of all sizes to be held responsible for secure storage and instant retrieval of the organization's historic electronic data communications, or e-data, for the purposes of e-discovery requests during legal proceedings.

But regulations aside, it is good business practice to archive this data in a manner that makes it readily available to the organization. This, for example, can facilitate data mining or enhance network security.

Tangent offers a product called DataCove, which provides a simple way for

organizations to archive email and IM communications in compliance with FRCP and other regulatory compliances.

DataCove is an email archival appliance priced at less than $4,000, so schools, government offices, and SMEs can more easily afford it. Web-based menus remove the complexity of searching and retrieving archived messages.

It comes in a 1U rackmount server case with commercial-grade power supply. This includes an Intel processor and motherboard, 1GB of RAM, a 300GB SATA II drive, and Sony AIT tape with 130GB.

"DataCove software runs on a Unix platform and is designed and assembled on a DOM (Disk On Memory) Module that holds all OS operational software," says Doug Monsour, president and CEO of Tangent. "Due to the robustness and speed of a DOM approach, DataCove is reliable and fast."

DataCove is designed to be a standalone, plug-and-play appliance that can be placed anywhere in a network infrastructure. It will track and archive data from Microsoft Exchange, Lotus Notes, Novell GroupWise, and other incoming/outgoing email programs. It is added to the network either through DHCP or Static IP.

"[Many systems] use a variety of installed clients . . . to provide this capability," says Monsour. "DataCove uses hooks into your mail servers to provide the same data archiving service with more reliability."

Tangent DataCove

Starts at $3,995

Provides email and IM archiving with a quick, simple, and low-cost solution using an easy-to-install plug-and-play appliance

(800) 342-9388

www.tangent.com

tangent®

We've Changed.

Have You Noticed?

If you're in the market for data center equipment, you need to make Processor.com your first stop.

The New All-In-One search at Processor.com makes it easy to:

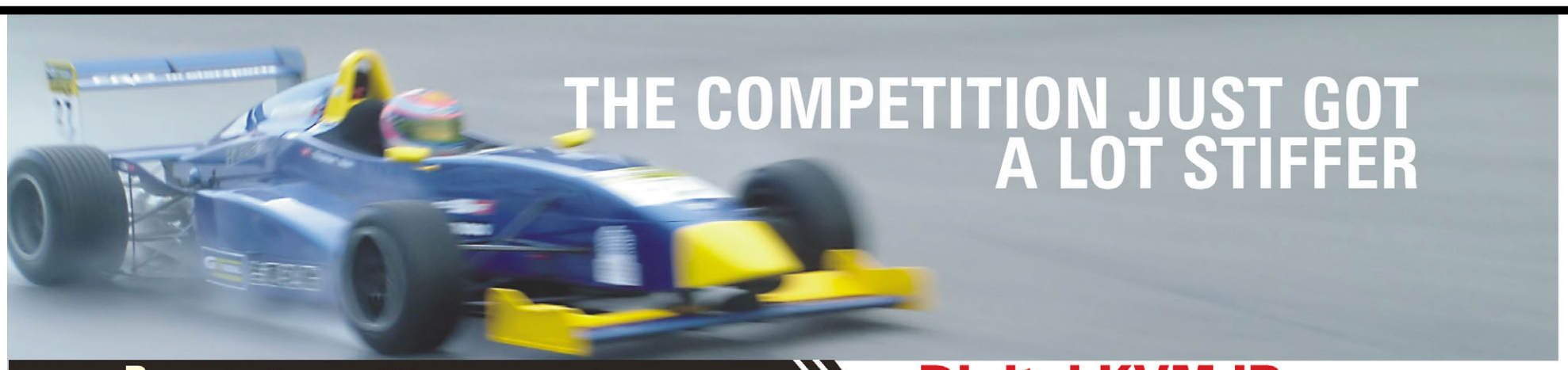
- Find **product information**
- **Research** and **compare** related products in a category
- Read **editorial reviews** and **articles** related to a topic
- Enter **keywords** to search for **product information**
- Send an **email** to a **product manufacturer**, link to the manufacturer's Web site for **additional product information**, or find a **phone number** to call

All with JUST ONE CLICK!

Go Online To

www.Processor.com today!

PROCESSOR.COM®



Remote Server Management — Digital KVM IP

UltraMatrix™ Remote
Connects 1,000 computers to up to 256 user stations

- Multi-user, multi-platform KVM IP switch
- Supports PC, Sun, Apple, USB, UNIX, and serial devices
- High quality video up to 1280 x 1024
- Secure encrypted operation with login and access control
- Scaling, scrolling, and auto-size features
- View 4 computer connections using the quad-screen mode

UltraConsole™ Remote
Access servers & serial devices from anywhere in the world

- PC, SUN, UNIX, Linux, USB, and serial devices
- Supports serial devices such as routers, switches, and more
- Emulates VT100/VT220 terminals
- Secure encryption operation
- Scaling, scrolling, auto-size and quad screen features
- View 4 computer connections using the quad-screen mode

UltraLink™
Manage & monitor servers from anywhere in the world

- High-quality video up to 1280 x 1024
- Secure encrypted operation
- Scaling, scrolling, and auto-size features
- Quad screen, real-time viewing of 4 computers
- Compatible with most KVM switches
- Available in single, dual, and quad models

PC, Sun, Apple, USB, UNIX, Serial Devices — KVM Switches

UltraMatrix™ X-Series
Expandable, multi-user switch for connecting 1,000 computers

- Multi-platform units have serial VT220 terminal emulation
- Advanced visual interface (AVI)
- Security features prevent unauthorized access
- Free lifetime upgrade of firmware
- Video resolution up to 1600 x 1280
- Multi-lingual Menu

UltraView™ Pro
Access or Manage 2 to 256 computers from a single KVM station

- Economical
- Easy to use, install, and expand
- Audio and serial support
- Advanced visual interface (AVI)
- Security features prevent unauthorized access
- Free lifetime upgrade of firmware

QuadraVista™
Display 4 computers on a single monitor

- View live, real-time data in each window
- Easily switch to and control each computer in Quad or Picture-in-Picture (PiP) mode
- Video resolution up to 1920 x 1200
- VGA and DVI video supported
- Supports USB and PS/2 computers
- On-screen menus for easy set-up

Fiber, CATx, DVI/VGA, PS/2 or USB — KVM Extenders

CrystalView™
Extends keyboard, video, mouse, audio and serial up to 1000 ft

- Supports USB, PS/2, or Sun
- Serial and full stereo options
- Available in single, dual, or quad video models
- Supports video resolutions up to 1600 x 1200
- Video tuning and skew adjustments available
- Dual version allows another KVM near computer

CrysrtalView™ Pro
Extends keyboard, video, mouse, audio and serial up to 33,000 ft

- Supports DVI video resolutions up to 1920 x 1200
- Supports Fiber or CATx cable
- Supports singlemode or multimode fiber cable
- Supports PS/2 or USB keyboard and mouse
- Supports for local KVM station
- Fully automatic KVM sharing

ViewLink™
Extends keyboard, video, & mouse up to 1000' over CATx

- Automatic compensation and equalization
- Automated video skew adjustments
- Models available for PS/2, USB or both
- Video resolution up to 1600 x 1200
- Compatible with KVM switches
- Operating system independent

Organize, Streamline Server Rooms — KVM Accessories

RackView™
15", 17", 19", 20" LCD flat panels Fold forward & backward designs

- Built-in single or multiple user KVM switch options
- Supports AT/XT, PS/2 and Unix computers
- DVI and S-video options available on 19" and larger LCD
- LCD flat panel and keyboard can be sold separately
- Available with full size, full function Sun keyboard
- Optional multi-media version with TV tuner & stereo speakers

RackView™ Panel Mount LCD
Mounts vertically in a standard 19" rack

- Available with a 15",17", 19", 20", or 23" LCD
- 19" and 20" models support DVI and VGA inputs
- Resolution up to 1280 x 1024
- Fits in 7 – 9 rack units (Depending on model)
- DVI and S-video options available on 19" or larger LCD
- Quick and easy rack mounting installation

VideoSplitter™ CAT5
Distribute, amplify & extend video to 6 or 12 monitors

- Video resolutions up to 1600 x 1200
- Each remote monitor can be up to 1,000'
- Optional Audio and Serial
- Easy to install
- Rack mountable chassis

ROSE US 281 933 7673
ROSE EUROPE +44 (0) 1264 850574
ROSE ASIA +65 6324 2322
ROSE AUSTRALIA +617 3388 1540

800-333-9343
WWW.ROSE.COM
Rose Electronics 10707 Stancliff Road - Houston, Texas 77099

ROSE ELECTRONICS

SERVERS — SEPTEMBER 7, 2007

Reduce IT Complexity

IBM System i Combines OSes, Database, Security & Storage Into A Single Integrated System

THE IBM SYSTEM I FAMILY lets you integrate, extend, and grow your business applications like never before by integrating a variety of OSes. You choose and run the best mix of applications for your business and centrally manage them.

Innovative integration. Instead of supporting and maintaining multiple disparate servers, often one for each application running on Windows, you can simply integrate operations, networking, and server management of a System i, BladeCenter, and System x environment.

Centralized, graphical server management. The System i Navigator provides a GUI for managing the System i and attached BladeCenter and System x servers. Navigator for Wireless lets you view server status and start/stop servers from a Web-enabled cell phone, PDA, or Web browser.

Synchronized security. i5/OS and Windows Server user IDs and passwords can be centrally managed.

Simplified storage management. With System i, there is a single pool of virtual storage that Windows may share. Virtual disks are allocated in i5/OS to each System x or blade server, yet all physical disk capacity and drive utilization is automatically managed by the System i.

Consolidated backup. With the integrated System i environment, all data and files are centralized in virtual storage and a single process can back up i5/OS and Windows data to a high-speed System i tape device.

Flexible server deployment. System i storage virtualization provides innovative options for enhancing the reliability and recoverability of your Windows servers. If a physical server fails, you can quickly and easily switch the server's storage to a hot spare System x or blade server.

Streamlined communications. System x and BladeCenter servers can communicate over System i virtual Ethernet network connections. Network traffic travels within the System i infrastructure and less across client networks.

IBM System i Integration with BladeCenter and System x

Lets businesses operate heterogeneous environments that include Intel-compatible servers running Microsoft Windows or Linux applications in addition to core business applications on i5/OS

(877) 426-2223

www.ibm.com/systems/i/systemx

IBM

STORAGE — AUGUST 10, 2007

Virtual RAID Boosts Video Surveillance Storage

Pivot3 Enters The Market With An IP-based RAID Platform

START-UP PIVOT3 has entered the scalable network storage market with a "virtual distributed RAID" platform, which the company says can slash storage infrastructure costs by half while improving scalability and data availability.

The RAIGE (RAID Across Independent Gigabit Ethernet) storage cluster is the first system from Pivot3 based on a block-level virtualization architecture that eliminates

the need for traditional RAID hardware and storage controllers. Data-protected storage is supported across networked nodes, called Databanks, which are built using x86-based servers connected by Gigabit Ethernet.

"This is an alternative that not only can reduce cost up to 50% but can also provide five times or more the performance of traditional storage," says Jeffrey Bell, vice president of marketing for Pivot3.

The ability for RAIGE to simply and cost-effectively handle data-intensive application workloads has made it attractive to customers within the video surveillance space. Breaking into that market is requiring Pivot3 to work within the existing partner community, a practice the company is likely to continue to use as it targets additional markets.

"Businesses considering video surveillance are looking at cameras or video management software and are working with security integrators," Bell says. "We've been working with those types of providers to get the leverage we need in the market."

The platform is well-suited for apps requiring content aggregation, including use for medical records, oil and gas exploration, and archiving. The use of standard server platforms can allow a business to create a pay-as-you-grow model, adding drives as needed without disruption.

"Data recovery times are five to 10 times faster than other storage alternatives due to system-wide parallel processing and a Pivot3-created algorithm that optimizes the rebuild process," he says. Data is continuously made available through volume provisioning changes that support on-the-fly configuration changes.

Pivot3 RAIGE Storage Cluster

$17,499 for 6TB; $22,499 for 9TB

Storage cluster that uses block-level virtualization to reduce cost and improve performance

(877) 574-8683

www.pivot3.com/RAIGE

Pivot3

YOUR WORST NIGHTMARE
SERVER DOWN - - SERVER DOWN!

Heat and humidity are a constant threat to you and your servers. Even when your room is electronically monitored, your servers can burn up or drown without warning!

You can now relax with ISC's new **Alert-A-Rack** server rack cabinet. The **Alert-A-Rack** cabinet is designed for proper air flow for today's hot running servers and best of all, it ***alerts you*** of excessive heat or humidity in a localized area.

Shown with optional components

Just think . . . an early alert notification may not only save your server, it may save you!

Check it out at WWW.ISCDFW.COM
(800) 458-6255

ISC™ Information Support Concepts, INC
Quality products for over 20 years

Cradle-To-Grave Data Administration

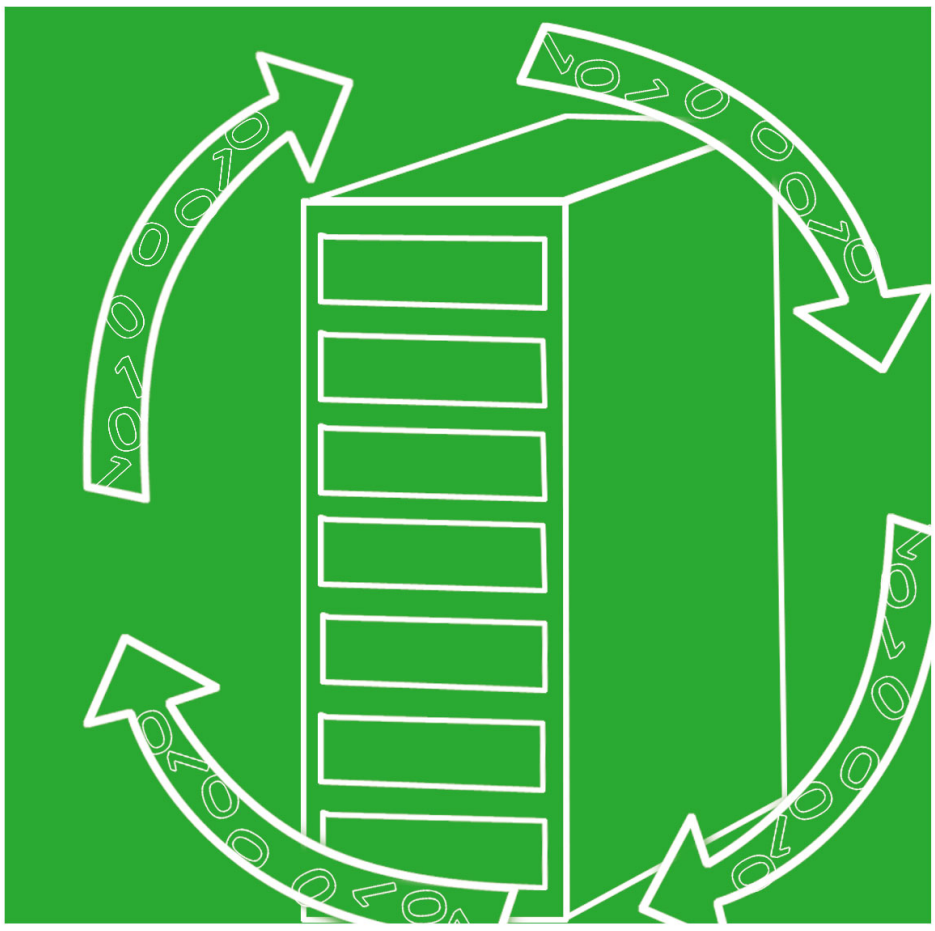
Information Lifecycle Management Can Align IT Infrastructure & Goals

by Bruce Gain

• • •

IT ADMINISTRATION IN MANY WAYS can seem more like an art than a science. Faced with new technologies and vendors touting their offerings as must-haves for cost savings and ROI opportunities, it can seem as if there are too many ways to piece together the right IT infrastructure, policies, and goals. Wouldn't it be nice to have a standardized approach when choosing technologies and making policy decisions that comprehensively reflect your enterprise's business goals and IT needs (all the while reducing costs)? More of a concept than a new technology, ILM (information lifecycle management) is geared to do all of that.

In a nutshell, ILM involves managing information over its entire life cycle and covers four areas: the creation, management, retention, and delivery of information, says Erik Moller, director of information lifecycle management for HP (www.hp.com) in Europe, the Middle East, and Africa. "An ILM solution automates the information flow based on policies that reflect the business' priorities," Moller says. "It's important that the IT manager has an understanding of what the business priorities are and gets necessary involvement from the line of business managers in the organization."



An SME admin can thus expect several immediate paybacks, Moller notes. "The benefits are lower administration costs while managing a fast-growing amount of data, improved availability for business-critical processes, lower risk, and improved corporate governance for how information is being retained, as well as compliance to industry regulations related to data privacy and information access," he says.

No One Size Fits All

Implementing ILM involves combining the right processes and technologies that can vary significantly from one enterprise to another. An organization's size, of course, is very important. Given the level of automation associated with ILM, for example, larger enterprises often stand to benefit the most. Still, SMEs certainly have a lot to gain, especially as their data needs expand.

"ILM, which as a concept involves processes and automation products, has the most applicability to large environments," says Edgar St. Pierre, chairman of the SNIA ILM Initiative and senior technologist in the office of the CTO for EMC (www.emc.com). "In small environments, the ILM concepts still play, but it is a matter of applying the size-appropriate tools to your service-level capabilities, what kind of information you have in your environment, and what the requirements are for the information."

Processes and products that are almost standard for large enterprises, thus, do not always scale down for SMEs. "There are tools out there that high-end enterprises can use for automated data classification or services that you don't need in a small shop," St. Pierre says. "Sometimes, you [just] need an Excel spreadsheet."

Unless you happen to have an ILM resident expert on your staff, you will likely need to rely heavily on a third-party provider to get started.

The Process

When you decide to implement ILM, technology is but one component. "To truly enable ILM in their environment, [admins] must embrace all of the following: people, processes, and governance, [as well as] technology," says Erick Amador, a storage consulting delivery manager for IBM (www.ibm.com).

And out of all of ILM's components, streamlining your enterprise's IT processes is a major element. "ILM is not just about products and technologies; it is also about the processes used in your environment when delivering services to your users. Whether [they number] 10 or 1,000, you have to look at both," St. Pierre says. "Processes are generally involved in anything in the service-level management space, such as how you deliver services to your end users."

Getting Started

Unless you happen to have an ILM resident expert on your staff, you will likely need to rely heavily on a third-party provider to get started. Costs to set up ILM will vary according to your enterprise's size and needs. However, expect to make substantial investments in training services, as well as in software and hardware.

Initially, the staffers who will head the project in your enterprise should expect to spend at least a day learning more details about ILM and discussing your enterprise's data classification, administration, storage needs, and business goals before the project's implementation begins.

On a cost scale, an ILM project budget usually is split between services and software and hardware infrastructure, HP's Moller notes. "The services part covers the ILM workshop, data analysis, policy setting, and deployment. The infrastructure will likely include an information archive, software to capture and deliver information, application integration, and search," Moller says. "This can be purchased as an appliance that simplifies administration and provides high performance and security."

The Storage Factor

Storage management, which is relevant to everything from compliance procedures to data-archiving policies, is also a large part of the ILM equation. Policies will require certain tools to ensure that information is stored on the right platform during the entire life cycle of information, says Scott Delandy, senior product manager, storage product operations, for EMC (www.emc.com).

Go to Page 12

Top Tips

- Think of ILM as a service and strategy instead of as a product or technology.
- Make sure ILM reflects your enterprise's business goals.
- Make sure the ILM flavor you choose covers your organization's compliance and data storage goals and processes.
- Realistically assess the investment in time and money you must make for in-house training.
- Make sure the service vendor can quantify the cost savings ILM will offer, in addition to specific performance metrics and benchmarks you expect.

PROCESSOR®

Subscribe Today!
Call (800) 819-9014
or
Subscribe Online!
Go to www.Processor.com

Add Wireless Access Throughout Your SME

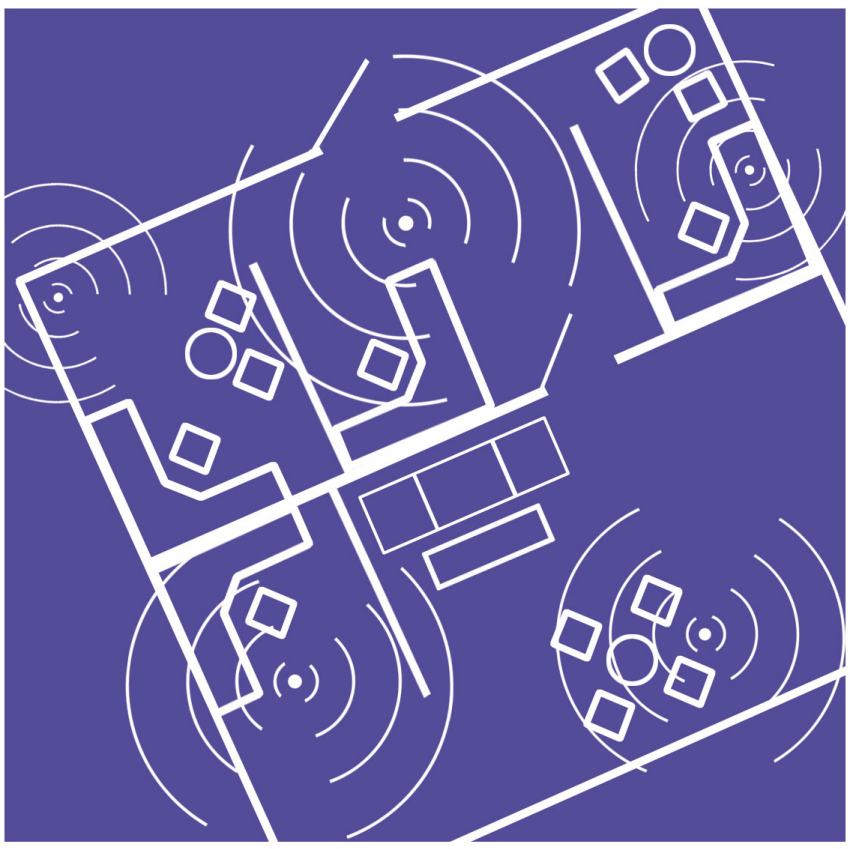
With Careful Planning & The Right Tools, Employees Can Unplug Safely

by Elizabeth Millard

• • •

The pace of business has steadily been driving demand for wireless within an enterprise, as executives seek to use Internet-connected laptops during meetings and employees appreciate the ability to check PDAs and other devices from anywhere within a building.

But, as many IT managers know, adding wireless isn't simply a matter of buying an armful of wireless access points and plugging them in. Security issues, network optimization, and system maintenance all play a part in creating an effective wireless strategy. Here are some steps to consider when making the move.



Plan, Plan, Plan

A few years ago, most wireless planning consisted of having a consultant do a site survey to determine where to place access points and then implementing wireless soon afterward. But as enterprises have learned, there's far more to putting wireless in place than just placement, says Amit Sinha, CTO of AirDefense, a company specializing in wireless LAN security. "Extensive planning is often overlooked," he notes. "You have to come up with accurate planning models, run optimization programs, and really do your homework." The companies that rushed into wireless ended up doing constant tweaking to adjust for neighboring signals and factors such as elevators and lobbies.

AirDefense has two products, Survey and Architect, respectively, that provide design and simulation of wireless LANs based on specific environments, Sinha says. With AirDefense Architect, building information can be imported into the software from drawings, scanned images, AutoCAD images, and even free-hand scribbles.

AirDefense Survey runs on a laptop or tablet computer for field measurement, so enterprises can gauge what type of interference may make a difference in planning their wireless. "You could implement a wireless strategy and, after you roll it out, find out that the neighbor's signal is interfering with yours," Sinha says.

Other vendors also have planning software that helps to plot out a robust, reliable network. For example, Bluesocket has the Wireless LANPlanner, created in conjunction with Motorola (www.motorola.com). With the planner, a company can input building information similar to that for AirDefense Architect and will be able to deploy wireless sensor networks and wireless access points, as well as design multiband systems.

OPNET offers the Modeler Wireless Suite, which is based on the company's Modeler software, a network planning tool. The suite has a number of simulation capabilities that include hundreds of wired and wireless protocols and vendor device models. Unlike the Bluesocket or AirDefense applications, which are geared toward physical placement of access points, the Modeler Suite focuses on analyzing potential end-to-end behavior of a wireless network and minimizing interoperability problems with different devices.

These types of tools can be invaluable in planning because they reduce the chances of issues within a structure and the need for tweaking after implementation. Also, vendors are working to make them more effective with every new generation of the software.

Often, IT managers might not even realize how many structural issues are really at play during planning—including adequate capacity, different building materials, poor service areas, and coverage holes—and doing site surveys through simulation can help prevent surprises later.

Plan Ahead For Management & Monitoring

Once all the research has been done, the products and software purchased, and the IT staff ready, the next step is deployment and configuration, which Sinha notes is usually fairly seamless because so much preparation has gone into the effort.

Systems should be configured to be compliant with existing protocols, but beyond that, many companies find it takes anywhere from a few hours to a day, depending on the complexity of the implementation, and smaller buildings often don't take much time at all.

After the pieces have been assembled, the next step is monitoring and maintenance, but managers shouldn't consider these only after the wireless LAN is in place. Instead, figuring out how monitoring should be done is part of the planning process, so managers can start doing it as soon as the WLAN is turned on.

"You want to make sure your wireless is living up to its performance," Sinha says. "Be prepared for any performance issues that may crop up, and look for noncompliant access points."

A number of software tools can do real-time analysis of a wireless LAN, from companies such as Network Instruments (www.networkinstruments.com),

Go to Page 12

Top Tips

- Assess the needs of different departments to understand how network traffic will be affected.
- Make sure wireless equipment will interoperate with existing network resources, including monitoring software.
- Get building blueprints and scan them into simulation software to get a better perspective on access point placement.
- Assign one person as the lead for the project and have that individual meet with departments to understand their expectations.
- Develop an employee training program to make the transition to wireless easier.
- Keep security in mind and consider whether to implement a solution such as Protected Extensible Authentication Protocol.

Software Tools & Devices

AirDefense Architect
Helps to accurately design Wi-Fi networks before deployment of access points, sensors, and wireless devices; demo and free trial available on the company's Web site
www.airdefense.net

Berkeley Varitronics Systems' Yellowjacket B/A/G
A wireless test receiver system designed as a passive measurement device that can locate rogue access points and interference
www.bvsystems.com

Bluesocket Wireless LANPlanner
Creates 2D and 3D RF coverage models from CAD drawings, blueprints, or sketches; a 15-day free trial version is available on the Bluesocket Web site
www.bluesocket.com

MetaGeek Wi-Spy 2.4x
A small 2.4GHz spectrum analyzer useful for troubleshooting when interference and bandwidth problems seem to be an issue
www.metageek.net

OPNET Modeler Wireless Suite
Does modeling, simulation, and analysis of wireless networks, with full protocol stack modeling capability and the ability to model all aspects of wireless transmissions, including RF propagation
www.opnet.com

"Full project planning from start to finish"

Premier Solutions Co. understands critical data operations and our 20 years of industry experience benefit our client base of over 30 data center buildouts and expansions.

Our services include:
• Server Management Solutions
• High-Density Server Solutions
• N+1 Power Solutions • Full Installation
• Thermal Management

Avocent
APC Legendary Reliability®

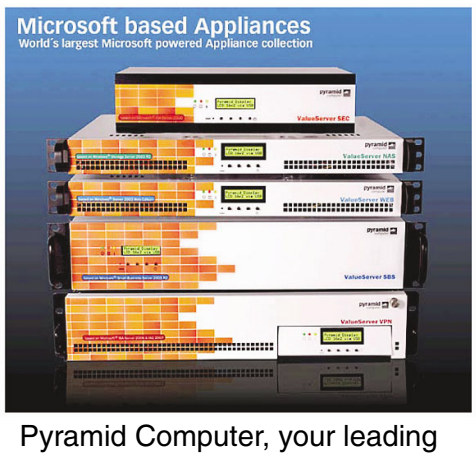
www.premiersolutionsco.com

PREMIER SOLUTIONS CO
Serving The Information Technology Industry

17150 Newhope St. Suite 206
Fountain Valley, CA 92708
Phone: (714) 557-5800

Protect our Environment
Go Green

Got Tape? We Buy!
NSA will recycle it
we assure you that all safeguards are put in place to protect the sensitive information and that all of the data is destroyed according to all local, state and federal goverment regulations
NSA National Sales Associates
contact us and experience our outstanding customer service!
Free pick-up at your location
866.670.2345 Service@nsainc.net



Pyramid Computer, your leading provider of branded appliance solutions, now offers the complete line of Microsoft security and storage product appliances featuring IAG and ISA server.

pyramid computer
Pyramid Computer USA
www.pyramid-usa.com
info@pyramid-usa.com
866-745-3553

Ingredients For A Successful VoIP Deployment

Network Assessment & Management Tools Are Key

by Sue Hildreth

• • •

VOICE OVER IP PROMISES big savings on the corporate phone bill. Yet companies have been slow to replace their traditional phone systems with VoIP. In fact, only 6% of organizations have deployed it across the enterprise, according to the Yankee Group, although 82% have dabbled in VoIP in pilots or departmental installations.

Zeus Kerravala, manager of infrastructure research and consulting at the Yankee Group, says the main obstacle is that major vendors have been slow to offer good VoIP management tools to make installation and troubleshooting easier. "The majority of really good management tools come from little companies, not from large network companies. But customers don't want to spend tens of millions of dollars on VoIP equipment and then trust the management of it to some little startup," he says.

VoIP Approaches

Nevertheless, a successful VoIP installation can offer cost savings in the 30 to 40% range. "You can get significant payback if you deploy it correctly," Kerravala says. The first step, he says, is to decide on the approach that best suits your organization. The four basic options are:

- Hosted VoIP, where the customer rents the service and equipment on a subscription basis from a service provider
- Managed VoIP, where the customer purchases the equipment but an outside service manages and monitors it
- Pure IP PBX, which is a software-based PBX that replaced the older TDM PBX
- Hybrid PBX, in which an IP card is added to the older TDM PBX and both systems operate at the same time

"The [in-house] hybrid and pure PBX models tend to be the most popular," says Kerravala. "There's an opportunity for service providers to offer hosted services, but the uptake of that has been pretty slow."

One reason is a reluctance to let an outside vendor manage a critical service such as the voice network, Kerravala notes. Another reason is that service providers have been slow to offer a full range of VoIP-based features, such as call forwarding. "VoIP service providers have lagged behind the features that you can get from the do-it-yourself approach," says Kerravala. He estimates that 75% of VoIP systems will be done in-house.

For those who opt for the do-it-yourself approach, a thorough assessment of the network infrastructure and applications running on it is a critical second step. That typically means taking an inventory of systems and applications, as well as evaluating future needs for new systems or software that will impact the network.

Hiring an outside network consultant to conduct the assessment is also a good idea, according to Ajay Kapoor, director of enterprise communications for the consulting and systems integration group at Avaya (www.avaya.com), which sells IP telephony management software and services. "You need an objective measure before you put in a mission-critical thing like voice," says Kapoor, adding that an assessment should consider both the minimum network requirements of the VoIP vendor's product, as well as the thresholds of the customer's current infrastructure and user expectations.

Another caveat: Don't do a network upgrade and a VoIP installation at the same time. "When a customer upgrades voice and network infrastructure at the same time, it's hard to tell what's the network and what's the VoIP infrastructure when a problem arises," says Kapoor.

Security Issues

While VoIP doesn't present many major security issues, the network manager should anticipate some inevitable security issues. For instance, do the new servers have the correct security configuration, or are they open to other applications or users? "Now there's a whole new set of services that have access to the network or which provide remote access for IT support," Kapoor says.

It pays to invest in network monitoring tools and change management software. "Make sure you have network management tools in place," says Kerravala. "Remember that with VoIP, it's running on a shared network, with all the other applications running, as well. Most network managers don't have the management tools in place to help them deal with problems that come up."

With the addition of VoIP, it's also more critical to have change management processes and software in place. "The largest cause of network downtime is companies making changes to the network and not documenting it," Kerravala says. "The network manager is always making tweaks to improve the network, but you don't always know what the impact is going to be on the voice traffic. The person who manages voice needs to be able to tell very quickly that something changed, so they can troubleshoot it."

VoIP Equipment

The basic equipment you'll need, says Andy Leong, manager for product marketing for Unified Communications Solutions at Cisco (www.cisco.com), includes an IP PBX; IP phones, either wired, wireless, softphones, or a unified communications application client; a SIP registration server; a SIP proxy server; a LAN switch; and a router.

"In our 'Building A Successful Virtual Workplace' 2007 benchmark, we found that organizations spend an average of $202 for operational startup, with costs on average declining as installation size grows. Capital costs averaged $842 per user, while ongoing operational costs are highly variable but generally are reduced as size of installation scales," says Irwin Lazar, principal research analyst and program director for convergence and collaboration at Nemertes Research. He notes that organizations benefit from reduced telecom costs by about 23% annually.

Of course, these savings are predicated on good planning and a thorough evaluation of the infrastructure. Mistakes can quickly turn VoIP from a cost saver into a money pit. "Preparedness is the main thing. The more work you do upfront, the more painless it will be," says Kerravala. "For every buck people spend on predeployment work, they save five bucks on the back end." P

Top Tips

- Take a network and application inventory.
- Evaluate future IT plans and bandwidth needs.
- Invest in change management and VoIP monitoring software.
- Do one upgrade at a time, so troubleshooting is easier.

It's All Right Here,
In A No-Nonsense Format

- Product Showcases
- Information Columnists
- Leading Manufacturers
- Technology News & Information

Don't Miss A Single Week. Call 800.819.9014
or go to PROCESSOR.COM® today!

Cradle-To-Grave Data Administration

Continued from Page 9

"Tools automate the movement of information to allow users to set policies that archive information directly from their production systems, freeing up capacity, enhancing information availability and retrieval, and streamlining backup and recovery," Delandy says.

To meet the storage process requirements, EMC offers what Delandy calls "in-the-box" storage tiering, tools such as EMC's Symmetrix DMX-4, CLARiiON, and Celerra to store data across multiple tiers of disk drives.

IBM provides storage resource management tools under its TPC (TotalStorage Productivity Center) umbrella for ILM. These virtualization products, among other things, are designed to help enterprises better pool their storage resources.

HP's RISS (Reference Information Storage System) and RIM (Reference Information Manager) serve as appliance and software tools, respectively, for ILM. RISS is a disk-based appliance for email, database, and file archiving, while RIM archiving software facilitates compliance and other policies by relocating transactions from production databases to archive databases.

Asigra (www.asigra.com) offers Backup Lifecycle Management as part of its product suite, which serves to add ILM functionality to its Televaulting for Enterprises software. The firm says its bundled ILM and backup platform software boosts the cost-effectiveness of data backup and archiving.

Atempo (www.atempo.com) says its ILM solutions emphasize data protection and security. Its products for ILM include data recovery management, storage security, continuous data protection, nonrepudiated long-term archiving, and regulatory compliance software.

CaminoSoft's (www.caminosoft.com) Managed Server HSM software suite is designed to enable organizations to set up ILM policies that automate the migration, recall, retention, and deletion of files. A central Windows console manages the different ILM servers.

The Cost Factor

At the end of the day, those in your enterprise who hold the purse strings will want to know how much money ILM will save your organization and when, measured in part by reductions in total cost of ownership. Service providers should, thus, be able to clearly quantify how their ILM offering will immediately lower costs for your enterprise in the mid- to short-term before you sign the contract. ILM can be complex to implement, but showing how it can reduce your particular enterprise's costs should be clear. P

ILM can be complex to implement, but showing how it can reduce your particular enterprise's costs should be clear.

Add Wireless Access Throughout Your SME

Continued from Page 10

ManageEngine (www.manageengine.com), and many other vendors. The tools are able to track changes in a wireless network and show that data alongside other network assets.

For example, the Observer products from Network Instruments can display metrics for deep packet analysis, while simultaneously monitoring the wired side of the network. The OpManager from ManageEngine similarly provides fault and performance functionality across a wireless and LAN infrastructure.

"There are a range of applications that might not be at the front of your thinking when you're first planning, but understanding all the components and needs upfront will give you a more strategic perspective on your deployment."

- MobileAccess' Lou Martinage

Make It A Company-Wide Effort

Most SMEs start their wireless strategies with a wireless LAN, says Lou Martinage, director of marketing for MobileAccess (www.mobileaccess.com). But in some cases, the companies are actually running a few different wireless projects because departments may put in their own access points and fund the effort with department funds. "At many places, they end up with a hodgepodge of different wireless projects," Martinage says. "By combining all of them, it makes it easier to fund and manage."

In the planning phase, IT managers should spend time in deep conversation with department heads, Martinage advises, to come up with a list of needs for each department, from Voice over WLAN (also called wireless VoIP) to Wi-Fi-based applications specific to one department to device and laptop requirements. For example, maintenance may want wireless capability to control heating and air conditioning from a handheld device, but sales may want to bring in temporary reps who can use their laptops from any cubicle.

"There are a range of applications that might not be at the front of your thinking when you're first planning," says Martinage, "but understanding all the components and needs upfront will give you a more strategic perspective on your deployment." P

Virtualization Venture

Continued from Page 1

64:1 ratios. Thus, certain existing servers can require "impossible" virtualization ratios, he says.

"The other common misconception is that virtualization reduces software costs. Depending on the type of virtualization, there may be little or no reduction in the software being run on the servers and thus no reduction in the licensing and maintenance charges. It is therefore unwise to base an ROI on aggressive gains in this area," Hillier says.

Examine The Environment

According to Steve Keilen, vice president of marketing for Marathon Technologies (www.marathontechnologies.com), virtualization abstracts and separates the logical resources from the underlying physical infrastructure, such as the servers themselves. The technology approaches servers, networks, operating systems, desktops, and applications much in the same way PCs use virtual memory to page-swap data to and from disks.

"IT executives should first take a hard look at how they are using their servers today," Keilen says. "Do they have common applications running on a number of servers? Do they have enough servers that could and should be consolidated? Are the number of applications, and the capacity required for the applications, continuing to expand?"

Managers must be intimately familiar with their existing environments before jumping into virtualization because inaccurate assessments can lead to wasted resources. Hillier says this understanding should include the configurations of the servers and their utilization patterns, as well as the business aspects of the servers and applications they run.

"Of particular importance are the business attributes and constraints on the servers," Hillier explains. "Many virtualization initiatives are treated as sizing exercises, but this tends to ignore the business realities—ownership, chargeback, target availability levels—and can lead to major downstream problems, particularly when virtualizing production servers."

Smart Selection

Virtualization companies and products continue to infiltrate the market at breakneck speed, which can intimidate smaller companies looking to get started with the technology. However, keeping the initial steps—and vendor selection—simple can help managers hone the starting process.

Keilen says that the core virtualization component, the hypervisor, is available from two of the most visible vendors in the market: VMware (www.vmware.com) and XenSource (www.xensource.com). While VMware is the larger provider and offers a mature set of products and services, Keilen notes that XenSource, which Citrix (www.citrix.com) recently acquired, is "an attractive alternative for many midsized and small enterprises because their solution is considerably less expensive and easier to set up and manage."

Scott Adams, senior engineer at TeamQuest (www.teamquest.com), warns that some enterprises might believe they're entering systems management nirvana when they jump into virtualization, but that isn't the case. "Companies need a good systems management tool to track and manage virtual servers, for example, as these virtual servers are created," he says.

A good system management tool, Adams says, can help managers determine what will happen to response time when activity changes, when application activity exceeds virtual server capacity, what resources will be needed before that need actually appears, and other factors.

Consider Costs

Virtualization entails costs that managers should carefully consider before deploying it throughout the enterprise. Although it will help to save money through server consolidation, the added costs it brings could offset some of those savings in certain cases.

Rackspace's Keller identifies four areas of cost that are typical in an SME. First are the server virtualization costs, which include the cost of the hypervisor and associated management tools. Second are network flexibility costs—a flexible network might be required if an enterprise is using a dynamic virtualization environment (with features such as dynamic loading or high availability).

The third cost area is new storage costs. "If you want to use other advanced virtualization features such as snapshots, clones, and templates, additional storage is required," Keller says. "Furthermore, such storage needs to be accessible from multiple servers to ensure a ubiquitous environment. Such SAN or NAS storage is not only fairly complex but also more expensive than traditional storage."

Human costs are also a factor, Keller says, as the introduction of all of these elements will spark the need for a parallel introduction of new skills within a traditional IT environment. In turn, this could lead to additional training or staffing costs.

Tread Lightly

One of the largest initial hurdles to integrating virtualization is cultural resistance, says Marathon's Keilen. "The idea of sharing systems across multiple applications, departments, and divisions requires a higher level of trust. Line-of-business has to be convinced of the overall benefits and that their performance won't be impacted," he says. "Manageability of virtual environments is also a key concern. IT wants the assurance that they'll have the tools to manage the virtual environment. Tools for virtual environments are just now coming into place."

Top Tips

Stepping into virtualization can seem chaotic to most managers unfamiliar with the technology, but the process doesn't need to be difficult. We polled our experts for the best tips related to getting started with virtualization.

Don't treat virtualization as a sizing exercise. "Underestimating the upfront analysis required, and ignoring the interaction required with application owners and business groups, will introduce vast amounts of risk and difficulty into a process that would otherwise be a win-win situation for everyone."
— CiRBA's (www.cirba.com) Andrew Hillier

Sell it to upper management. "In the beginning, it will be critical to demonstrate to line-of-business and executive management that virtualization can be accomplished without impacting the performance of their applications and without diminishing service to end users."
— Marathon's (www.marathontechnologies.com) Steve Keilen

Do your research. "Carefully plan the additional tools and resources needed to manage the virtualization layer to ensure that virtualization can deliver the savings it promises."
— Rackspace's (www.rackspace.com) Nicolas Keller

Get your systems up to speed. "Companies need to be able to accurately predict the quality of service for workloads and be able to manage the virtual environment. Enterprises must be able to optimize their systems in advance of a need based on business forecasts, predict response times, and determine when upgrades or expansions will be needed."
— TeamQuest's (www.teamquest.com) Scott Adams

Security Vulnerabilities To Watch For

Continued from Page 1

is a second risk, with common database applications a third. To properly mitigate these risks, we recommend monitoring Microsoft's security notifications and subscribing to a threat notification service from vendors such as Symantec or VeriSign," says Wang.

Points Of Entry

Identifying points of entry is a good first step when you begin evaluating your security posture. At first glance, this would seem to be a pretty short list. Upon further examination, the potential risks go far beyond the company firewall. Email is the most common application and the biggest potential entry point, followed by Web access.

Remote access continues to be a big potential vulnerability with multiple avenues of threat possibilities. While perimeter and remote access defenses add a level of protection, they don't typically take into consideration a trusted source as a threat. Clear policies and procedures, along with automated processes for removing access rights of former employees, are an essential part of managing security risks.

"We've found that identity management and access control has become one of our biggest areas of focus when it comes to security," according to the IT security director for a large healthcare company. "While we are driven in large part by regulatory compliance issues, we also have to take into consideration the implications of allowing multiple vendors access to our corporate network and at the same time preventing access to former employees."

Physical security has taken on a whole new dimension with the introduction of the iPhone (www.apple.com) and other similar portable devices. Determining a company policy on removable storage devices should include things such as iPods and any other device capable of storing digital information. If loss of corporate data is a big concern, you might want to consider a product such as RedCannon's KeyPoint Manager (www.redcannon.com) to provide an extra measure of protection. Other vendors in this space include Novell with its ZENworks Endpoint Security Management product (www.novell.com) and Sybase iAnywhere (www.ianywhere.com).

Multiple Options

Dave Samic is a CDW (www.cdw.com) field engineer and frequently works with customers to assess their security posture and recommend solutions tailored to their situations. "We start off every engagement with a top-level assessment of the customer's environment," says Samic. "Once we know what the specific needs are, we can start to look at an overall architecture and identify potential hardware and software components tailored to their requirements."

CDW has a number of security-related resources on its Web site, including a recent Network Security Reference Guide. (A PDF version of the guide can be downloaded at www.cdw.com/securityguide.) One of the things identified by CDW in the report is the importance of a layered approach to security defenses. For the most part that means having more than a single-point solution to protect yourself from any specific threat. While a server-based antivirus/antispam gateway will hopefully catch the majority of the inbound threats, you still need a complementary client-side component to complete the circle of defense.

While some security experts disagree on the approach to multiple layers, there are points to consider from both sides. In the case of antivirus/antispam, there is some merit in using different vendors for the two components. This would hopefully prevent the same basic flaw from affecting both lines of defense. At the same time, you add an extra layer of management whenever you mix software solutions from different vendors.

Outsourcing your security needs is another potential option for some companies. Many will find this option too much of a risk when they have critical corporate data or regulatory compliance requirements that would adversely affect the health of the company in the event of a security breach.

Symantec (www.symantec.com) is one security vendor that offers both products for sale and a managed security service should you choose to go that route. Other managed security providers include Cybertrust (www.cybertrust.com; recently acquired by Verizon Business), SecureWorks (www.secureworks.com), and TippingPoint (www.tippingpoint.com).

Educated Workforce

Nothing can substitute for a well-educated workforce when it comes to security awareness. It's pretty much an impossibility to completely eliminate the human side of the security vulnerability problem whether through an inadvertent or completely overt and conscious act. Security education can help make employees aware of the potential threats and establish good security behavior.

Education can also act as a deterrent to potential malicious activity by communicating the consequences and the security measures in place to help detect improper activity. You don't want to give away all your secrets here, but you do want to make it clear that you have the ability to identify specific individuals when they are connected to your network.

Another part of the education process is to clearly identify to your employees what is acceptable or appropriate use of company property. It's also a good idea to inform employees of what's expected of them in terms of updating virus definitions and security software on company laptops.

Taking A Good Look

According to CDW's Network Security Reference Guide (the full report can be downloaded at www.cdw.com/securityguide), there are five areas of network security needed to build a layered approach:

Gateway Security

- Firewall
- Intrusion prevention systems
- Intrusion detection systems
- Network Access Control

Server Security

- Authentication and authorization
- IP security
- Content filters

Client Security

- Malware

Mobile and Wireless Security

- Unsecured wireless networks
- Remote access to corporate networks

Physical Security

- Securing data centers, property, staff, and customers
- Securing notebook PCs and portable devices

PHYSICAL INFRASTRUCTURE

Dual Slide LCD Drawer-Modular KVM Switch

Minimize inventory and maximize upgrade using detachable KVM switch console

- Supports up to 16 ports/ USB or PS/2
- Supports up to 32 ports/ CAT5
- Plug n Play upgrade cableless attachment
- 15/17/19/20.1" LCD screen
- Sun keyboard
- 17 various intl keyboards
- OSD function for LCD display
- Panel protected by tempered glass

BROADRACK

Broadrack
(714) 444-2390
www.broadrack.com

PHYSICAL INFRASTRUCTURE

Modular 3-Phase Power Distribution

Designed to take a 3-Phase in-feed and distribute single phase power via Basic CDUs that can be placed anywhere in the cabinet. Each Basic CDU has an associated LED meter for simple load balancing. The Master unit contains the LED meters, temperature/humidity probe input, serial connection, IP connection, and exclusive link port to connect an expansion CDU for linking together CDUs on different power circuits.

Server Technology, Inc.

Server Technology Inc.
(800) 835-1515
www.servertech.com

PHYSICAL INFRASTRUCTURE

Switched CDU CW-24V2

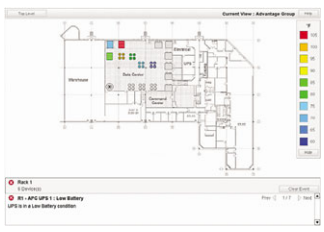
Power cycle individual or groups of outlets to remotely reboot network devices.

- 208V to 240V Single or 3-Phase power at 20 or 30A
- Access and Security: Web interface, SSL, SSH, Telnet, SNMP, LDAP, TACACS+, and RS-232 access
- Environmental Monitoring
- Fuse Retractor
- High-Density 24 IEC C13

Server Technology, Inc.

Server Technology Inc.
(800) 835-1515
www.servertech.com

PHYSICAL INFRASTRUCTURE



Enterprise View CDU Manager

- Remote management of STI Sentry PDUs over IP
- View your entire system from Global View down to the rack level
- Centralized event logging with extensive logs and reports
- Thermographic mapping shows a visual depiction of hot spots in your data center

Server Technology, Inc.

Server Technology Inc.
(800) 835-1515
www.servertech.com

PHYSICAL INFRASTRUCTURE

Sentry 30-A Fail-Safe Transfer Switch

- Provides fail-safe redundant power to single-power corded equipment
- Fast Transfer Rate—Power interruption will not affect equipment uptime or performance
- Patented arc-suppression and power in-feed sharing technology extend product life and performance
- High Density—100 to 240V and 16/32A

Server Technology, Inc.

Server Technology Inc.
(800) 835-1515
www.servertech.com

PHYSICAL INFRASTRUCTURE

RPC 14

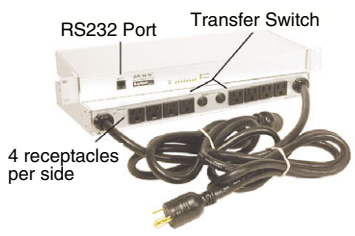
8 Receptacle Power Control and Monitoring

- Current, Voltage, Power, and Temp Monitoring
- LCD Screen displays power monitoring information
- RS232 interface, 120/208VAC 10,20,30A Models
- Turn On, Off, or Reboot any or All Receptacles

BayTech

BayTech
(800) 523-2702
www.baytech.net

PHYSICAL INFRASTRUCTURE



RPC18

8 Receptacle Power Control / Monitoring w/Trans Switch

- Current, Voltage, Power, and Temp Monitoring
- Automatic Transfer Switch
- RS232 or Network Interface 120/208VAC 10, 20, 30A Models
- Turn On, Off, or Reboot any or All Receptacles

BayTech

BayTech
(800) 523-2702
www.baytech.net

PHYSICAL INFRASTRUCTURE

RPC 22

24 Receptacle Remote Power Monitoring & Distribution

- Current, Voltage, Power, and Temp Monitoring
- LCD Screen Display
- RS232 Interface 120/208VAC 10,20,30A Models
- Power Distribution and Monitoring In One Unit

BayTech

BayTech
(800) 523-2702
www.baytech.net

PHYSICAL INFRASTRUCTURE

Meets any price!

CoolCube 10

RACK IT - STACK IT - MOUNT IT - HANG IT

Tired of Overheated Server Rooms? The CoolCube 10 Offers an Exceptional Cooling Solution for Electronics

- 50% smaller than competitors, provides 10,000 btu/hr
- Installs into any 2- or 4-post 19" rack or is portable in room
- Automatic restart function for power outages
- Cost-effective for after-hours and weekend cooling
- Uses standard 115 VAC power source

RACKMOUNT SOLUTIONS, LTD
where customer service matters

Rackmount Solutions Ltd.
(866) 207-6631
www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE

Seismic NEBS Zone 4 Server Rack

Certified to Seismic Zone 4

Based on the standard, patented frame design of our RS, RSP and FRS server rack series, this NEBS-compliant configuration has been tested and certified to meet Telcordia (Bellcore) GR-63-CORE requirements for ZONE 4 seismic earthquake environments.

GSA #GS-35F-0208R

RACKMOUNT SOLUTIONS, LTD
where customer service matters

Rackmount Solutions Ltd.
(866) 207-6631
www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE

Air Conditioned Server Cabinet

- From 1,800 to 10,000 BTU
- Rackmount and Sidemount
- Three sets of L-shaped universal vertical rails
- Base, casters, and leveling feet standard
- Removable side panels
- Lexan front door (or solid steel) w/ lockable handle
- Steel rear door with lockable swing door handle
- Avail. in heights of 24u, 30u, 35u, 40u, 42u, 44u, 48u; depths of 24", 30", 36" and 42"; widths of 19", 23" & 24"

RACKMOUNT SOLUTIONS, LTD
where customer service matters

Rackmount Solutions Ltd.
(866) 207-6631
www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE

NETWORK Series Network Rack

- Need a COMM rack with the rack rails moved to one side to accommodate large cable bundles?
- You have the option to slide your vertical rack rails horizontally as well as vertically. Set your rackmount width to 19 or 23 inches. Talk about versatility!
- Slide the rack rails to one side of the cabinet, allowing for additional 4 to 9 inches. of space on the opposite side to run large cable bundles.

RACKMOUNT SOLUTIONS, LTD
where customer service matters

Rackmount Solutions Ltd.
(866) 207-6631
www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE

Sound-Dampening Quiet Server Rack

- This sound-dampening server rack is designed for applications that require a quieter environment than the average server room
- Two sets of "L"-shaped adjustable universal mounting rails on a patented aluminum extruded welded frame
- Side panels with full sound foam sheet; foam sealing tape between panels and frame
- Vented front door

RACKMOUNT SOLUTIONS, LTD
where customer service matters

Rackmount Solutions Ltd.
(866) 207-6631
www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE

Solutions Start At
$245

Room Alert 24E

Protect Your IT Equipment...*Don't Wait Until It's Too Late!*

- Digital Temperature, Digital Humidity, Main / Digital Power
- Flood, Smoke, Sound, Light, Entry, Air Flow, Cameras, Dry Contacts, Switch Sensors, and more
- Alerting, Automatic Corrective Action, Logging, and more
- Web Interface, Ethernet, SNMP, Wireless, and more

AVTECH Software

Avtech Software
(401) 847-6700
www.avtech.com

PHYSICAL INFRASTRUCTURE

4 Post 19" Relay Rack

- Vertical Mounting Space: 12U, 26U, 42U
- Offered in 3 Depths: 24", 30", 36" Deep
- 4 Heavy-Duty Steel Uprights
- 4 Gliders
- Ships Knock-Down
- Easy to Assemble

hergo TECHNICAL WORKSPACE SOLUTIONS

Hergo
(888) 222-7270
www.hergo.com

PHYSICAL INFRASTRUCTURE

Technical Furniture

- 72"H x 30"W frame and leg assembly on flat levelers
- (2) 30"W x 18.5"D mounting shelves
- 30"W x 25"D leg mounted
- Set of 19" rackmount brackets—3.5"H x 12"D
- (2) 30"W horizontal aluminum tracks for mounting of flat panel monitor, keyboard, and mouse tray
- Power/cable management
- Optional locking and non-locking casters

hergo TECHNICAL WORKSPACE SOLUTIONS

Hergo
(888) 222-7270
www.hergo.com

PHYSICAL INFRASTRUCTURE

Rackmount Enclosure Cabinet

- 19" Enclosure
- 42 U x 36" Deep
- 4 Mounting Rails
- Front and Rear Lockable Doors, choice of Solid, Tempered Glass, or Perforated
- 2 Removable and Lockable Side Panels
- 4 Dual Wheels

On sale and ready to go!

hergo TECHNICAL WORKSPACE SOLUTIONS

Hergo
(888) 222-7270
www.hergo.com

PHYSICAL INFRASTRUCTURE

M Series Power Distribution Units

A Cyber Breaker on each outlet (M820C *Plus*) • Monitor current on each outlet (M 820C) • Schedule outlets on/off • SNMP management • Login/password security • Event logging • Give outlets descriptive names • Programmable stagger on/off times • Intuitive user interface

CYBER SWITCHING®

Cyber Switching Inc.
(408) 436-9830
www.cyberswitching.com

PHYSICAL INFRASTRUCTURE

$1,900
New Product!

Rackmount LCD Drawer With KVM Over IP

i-Tech SuperStore for Rackmount LCD Console Drawer

- 15", 17", 19", and 20" is also available
- Optional with 8/16 ports KVM
- New integrated with Remote Access via CAT5 and via IP
- New SUN Solaris Rackmount Keyboard

Free ground shipping for all rackmount LCD KVM drawers

i-TECH COMPANY
RACKMOUNT SOLUTION

i-Tech Company
(888) 483-2418
www.i-techcompany.com

PHYSICAL INFRASTRUCTURE

Classic Series - Portable Air Conditioning

Ideal For:
- Server Rooms
- Electronic Equipment
- Primary, Supplemental, or Emergency Cooling

Featuring:
- Rentals and Sales
- Installs in Minutes
- Locations Nationwide

MOVINCOOL
PREFERRED DISTRIBUTOR
MovinCool, SpotCool and Office Pro are registered trademarks of DENSO Corporation.

Atlas Sales & Rentals, Inc.
THE PORTABLE COOLING & HEATING SPECIALISTS

Atlas Sales & Rentals Inc.
(800) 972-6600
www.atlassales.com

STORAGE

EnhanceRAID R4 Series

1U 4-Bay Multi I/O RAID/JBOD Storage

EnhanceRAID™ R4 RAID embedded or HBA dependent storage system with 4+ hot-swappable HDD trays

RAID Configuration	JBOD Configuration
• U320 SCSI	• Multi-lane SATA/SAS
• GbE iSCSI	• Port Multiplier
• Firewire/USB	• eSATA

ENHANCE TECHNOLOGY, INC.
Where Storage Begins

Enhance Technology, INC.
(562) 777-3488
www.enhance-tech.com

STORAGE

Call for Price

AccuNAS AN208L NAS + iSCSI Rackmount

- Unified Storage: supports iSCSI IP SAN and NAS
- Expandable to External SCSI or Fibre Channel storage
- 2.8GHz Pentium D CPU or above with 1GB DDR2 Memory, upgradeable to 8GB maximum
- 8-Bay SATA II Hot-Swappable, up to 8TB storage capacity
- NAS-to-NAS Mirroring with Automatic Failover
- Built-in Hardware RAID-0, 1, 5, 6, 10, plus HotSpare

SANS DIGITAL® www.sansdigital.com

Sans Digital
(562) 949-1988
www.iscsinas.com

NETWORKING & VPN

Prices starting at
$1,499
with no per-port or per-server license fees.

Barracuda Load Balancer

The Barracuda Load Balancer integrates server load balancing and network intrusion prevention into an affordable and easy-to-use network appliance. Ideal for data centers with:

- Internet sites with high traffic requirements
- Hosted applications using thin-client architectures
- Other IP services requiring optimal performance

BARRACUDA NETWORKS

Barracuda Networks Inc.
(888) 268-4772
www.barracuda.com

NETWORKING & VPN

DS1M12 Stingray Multi-Function Instrument

Powered from USB, Stingray needs no external power supply. Stingray combines the functions of Oscilloscope, Data Logger, Spectrum Analyser, Volt Meter, Frequency Meter, and Signal Generator in a single instrument. Stingray features simultaneous 12-bit sampling on both channels, a native sampling rate of 1MS/s (20MS/s repetitive signals), and sophisticated hardware triggering, including delayed time base pulse width.

EasySYNC™

EasySync
(503) 547-0909
www.easysync-ltd.com

Product Releases

Clients

■ **AMD** announced its Quad-Core Opteron processor, which features four discrete cores on the single silicon die and AMD's exclusive CoolCore Technology, which powers down idle parts of the chip to cut energy consumption. AMD's Quad-Core Opteron processors also benefit from Independent Dynamic Core Technology, which lets each core vary its clock frequency depending on the task at hand. Lastly, the processor's Dual Dynamic Power Management technology lets the cores and memory controller operate at different voltages.

• • • • •

■ **BOS** unveiled its new print server, the BOSâNOVA LANspooler. Supporting up to four printers simultaneously, the LANspooler can be configured securely via the Web and offers centralized management. Other features include an all-in-one print server and spooler and AS/400 host support. Supported printer drivers include HP CPL 4, 5 and Matrix (Generic).

• • • • •

■ **Fujitsu** introduced the Fujitsu fi-5530C2 landscape departmental scanner. It has a small footprint and comes with Kofax VRS (VirtualReScan) 4.1 Basic, Adobe Acrobat 8 Standard, and ScandAll Pro. This scanner claims speeds of up to 50ppm/100ipm. Other features include 600dpi optical resolution, a duty cycle of up to 5,000 documents per day, a 100-page automatic document feeder, and dual-CCD scanning arrays. It also offers ultrasonic double-feed detection, selectable black-and-white background, auto de-skew, autocropping, page counter, RGB color dropout, long/odd-sized document scanning, and hard card scanning capabilities. The scanner supports TWAIN and ISIS drivers and includes Ultra SCSI and USB 2.0 interface options.

• • • • •

■ **HP** introduced three commercial desktop solutions, along with new technologies for the HP ProLiant Blade Workstation. The HP xw4550 Workstation, HP xw4600 Workstation, and HP Compaq dc7800 Business Desktop PC are suited for organizations of all sizes and have entry-level pricing. The dc7800 Business Desktop PC has a 46% smaller form factor and is energy efficient. The HP ProLiant Blade Workstation now supports Nvidia FX1600M 3D graphics, Intel Xeon 64-bit quad-core processor technology, and Red Hat Linux 4; this allows more continuity, data security, and efficiency.

• • • • •

■ **InFocus** unveiled the Work Big IN38 digital projector, featuring a filter-free design and the latest DLP technology. Weighing in at just 7 pounds, it produces 3,500 lumens and offers a 2,000:1 contrast ratio. Additionally, the Work Big IN38 digital projector boasts a native XGA (1,024 x 768) resolution, with support for SXGA (1,280 x 1,024). It's easy to use with features such as the 1.2X manual zoom, digital keystone correction, and a ProjectAbility keypad that provides users with access to over 90% of onboard settings and diagnostic tools. Both front and rear projection is offered in order to allow for flexibility.

• • • • •

■ **Océ** unveiled a line of new monochrome digital printers. The Océ VarioStream 9710 system is the first model in the new line and is due to begin shipping in the first half of 2008. Further additions to the family include the Océ VarioStream 9510 and the Océ VarioStream 9610. The Océ VarioStream 9710 runs at 1,515ipm, while the Océ VarioStream 9610 delivers 1,364ipm, and the entry-level Océ VarioStream 9510 delivers 1,136ipm. Functionality can be expanded to incorporate up to two additional Océ CustomTone colors, so customers benefit from the Océ Job Appropriate Color strategy with the best balance of color cost and speed for each job. Users can also add a special Graphic Arts option to all three models for printing challenging graphics and images.

Océ also announced the next generation of its Océ VarioPrint family. The new capabilities are available as a software upgrade for all VarioPrint 6000 printers, including current customers. With the next-generation Océ VarioPrint family, customers can organize print production based on scheduling and other requirements. Users can define up to 10 customized print queues, and multiple jobs can be bundled and printed as one set. With Océ Gemini Instant Duplex printing and efficient single-pass technology, the printers use paper, toner, and energy more economically. The Océ VarioPrint 6000 family now includes a 60,000-sheet roll feeder and a third high-capacity stacker for a maximum output capacity of 22,000 sheets. Additionally, the Océ VarioPrint 6000 family has adopted the Océ-developed OCEAN Interface with its intuitive information and system management and is expected to be available in November.

• • • • •

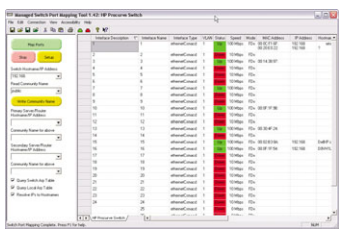
■ **Xerox** expanded its black-and-white digital printing portfolio by adding the Xerox 4112/4127 Copier/Printer and Xerox 4112/4127 Enterprise Printing System. The Xerox 4112/4127 systems offer 2,400 x 2,400dpi for high-quality duplex printing. These systems claim print speeds of 110 or 125ppm and scan speeds of 100ipm, simplex or duplex. The products handle a wide range of media and offer increased paper capacity for longer unattended run time. The 4112/4127 systems feature a new 20-sheet saddle-stitch booklet maker and folding unit. The copier/printer configuration comes with an integrated scanner, and users can select from three workflow options: an integrated copy/print server, optional Xerox FreeFlow Print Server, or an EX Print Server, powered by Fiery. The Enterprise Printing System is a printer-only version powered by the FreeFlow Print Server, providing a distributed print solution that enables transaction and publishing workflows. These products are expected to be available Oct. 15.

Messaging & Telephony

■ **Comverse** released MyCall Converged Communications, which provides consumer telephony and messaging services with a unified user interface over fixed broadband and mobile networks. By combining mobile telephony with messaging, MyCall lets operators deploy consumer telephony and messaging across PCs, home phones, and mobile devices for a unified, converged interface. By using a similar interface, users can access all communication and message services (including telephony, SMS, MMS, IM, and Presence), while also using the same number to call all devices with a shared contact list. Additionally, MyCall provides cost-effective voice, video, and messaging bundles.

Go to Page 17

Networking & VPN



Managed Switch Port Mapping Tool

Windows software tool that communicates with a managed ethernet switch via SNMPv1/v2c and maps the physical port connections to MAC and IP addresses of the attached devices.

NorthWest Performance Software, Inc.

NorthWest Performance Software Inc.
(866) 882-3389
www.nwpsw.com

Security

$375
2nd Unit - 50% OFF

Cisco PIX® 501 60Mbps Firewall

The PIX 501 includes: 4-port Fast Ethernet (10/100) switch and a Fast Ethernet (10/100) interface. High-speed broadband environment security. The Cisco PIX 501 delivers up to Triple Data Encryption Standard (3DES) and 4.5 Mbps of Advanced Encryption Standard-128 (AES) throughput.

- 1 Year Warranty
- Licensed for 10 IKE peers instead of factory to user
- 100% Money Back Performance Guarantee

RWU INTERNATIONAL COMPUTERS, INC.

RWU International Computers Inc.
(800) 679-4685
www.rwuinternational.com

Services

PoS Sales & Maintenance

PoS (Point-of-Sale) Barcoding / Scanners / Barcode Printers

Sales & Maintenance

- Quality Service
- Experienced Technicians
- Fast Return
- Servicing Major Brands

Symbol • Intermec • Zebra
Metrologic • Cisco Access Pts.

Call Us Today!

Pegasus Computer Marketing, Inc.

Pegasus Computer Marketing Inc.
(800) 856-2111
www.pegasuscomputer.net

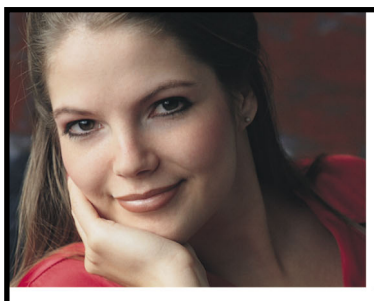
Clients

500W+500W Redundant Power Supply

- Dual AC INPUT design
- Hot-swappable/hot-pluggable redundancy function
- Load sharing design for smart stress and heat distribution
- Hold up time: 16ms at max load and normal input voltage
- Over power, voltage, and short circuit protection
- Strong power signal and cooling fan

TC-iStar
www.tc-istar.com

TC-iStar
(888) 696-3962
www.tc-istar.com



Thanks to DMD, we don't have to sit on our old computer equipment anymore.

When it comes to IT equipment liquidation or disposal, we are serious. Let us worry about data security and destruction, EPA regulations, transportation, down time and insurance. Don't tie up your resources or take chances with your data or environmental issues.

Call DMD today!
(877) 777-0651

We Purchase:
Computers/Laptops
Networking Equipment
Power/Environmental
Telecom/Network
Complete Data Centers
Printers

We Offer:
Asset Tracking/Reporting
Deinstallation/Packing/Transport
DOD Level Data/Mechanical Destruction
EPA Recycling/Reuse
Ongoing Support Plans
Technology Refresh/Install Programs

Find out why some of the top U.S. companies and Government Agencies call DMD Systems Recovery.

NAID

DMD Systems Recovery, Inc.
A Slightly Different Company™
Toll Free: (877) 777-0651 Phone: (602) 307-0180 Fax: (602) 307-0181
Internet: www.dmdsystems.com
Providing QUALITY GOODS and SERVICES for Industry.
Member of AFCOM, Better Business Bureau, Chamber of Commerce. HP Authorized. Member of NAID (National Association for Information Destruction, Inc.)

BBB

hp invent

PROCESSOR

Subscribe Today!

Call (800) 819-9014

or

Subscribe Online!

www.Processor.com

Product Releases

Continued from Page 16

NETWORKING & VPN

■ **A10 Networks** introduced the latest addition to its EX Series family of bandwidth management appliances with identity-based reporting, the EX 1000. Designed for SMEs, the EX 1000 is a 1U appliance that includes a 3GHz Pentium 4 processor, 128MB flash memory, 4Gb over copper ports, and up to 500Mbps of aggregate throughput. A10 Networks also announced a firmware update to all EX models, which will support more P2P protocols and bandwidth configurations, as well as detailed reporting and alert enhancements.

• • • • •

■ **Attachmate** introduced the Unisys Edition of its Reflection for the Web, which is a terminal emulation application that securely connects browser users to applications running on Unisys, IBM, HP, Unix, and OpenVMS hosts. The software delivers strong authentication, encryption capabilities, and a Security Proxy Server with Secure Token Authorization. The software also helps customers achieve regulatory compliance, authenticate users, and take advantage of standards-based security and supports IE, Netscape, Opera, Mozilla Firefox, and Safari. Reflection for the Web also simplifies legacy host application sign-on and integrates host applications with IBM, BEA, and CA SiteMinder portals.

• • • • •

■ **Avocent** introduced the newest version of its DSView 3 management software that lets IT administrators access and control their virtual environment. To achieve this, DSView 3 authenticates users and audits access with a single record of who has performed what action on the server and why. DSView 3 collects these events and alerts and combines them into a single interface for easier access and improved adherence to federal regulations and company security policies. The software allows for synchronization of changes between multiple servers from a single console.

• • • • •

■ **Colasoft** released a Windows packet and protocol analyzer for network troubleshooting. Capsa 6.5 monitors traffic over local hosts and local networks and supports packet capture and data analysis in real time. The software scores MSN, AIM, ICQ, and Yahoo! Messenger and features a wizard that lets administrators easily test specific adapters to make sure that software has successfully installed. The software also has tools that let users create and replay packets. Other tools let administrators ping or scan IPs and MACs over the network. According to Colasoft, Capsa 6.5 is easy enough to be used by a novice but has advanced features. The software supports Windows 2000/XP/2003/Vista and is available for $299 (a single-user Professional Edition license). The Enterprise Edition licenses start at $499 and include customizable network profiles, summary statistics snapshots, and support for loopback adapters.

• • • • •

■ **Fluke Networks** has added the new NetSecure option to its enterprise and telecommunication network testing, monitoring, and analyzing NetTool Series II Network Tester. NetSecure lets technicians examine performance issues by testing for malware, spyware, adware, etc. while it solves connectivity issues, thus eliminating the wasted time on trial and error troubleshooting. NetSecure reduces maintenance costs by detecting malicious apps based on actual port behavior. Further, NetSecure aids enterprises in protecting against future attacks via 802.1x authentication protocol support. NetSecure is available now as a standalone upgrade.

• • • • •

■ **Lantronix** has announced the UBox 2100, a USB-to-Ethernet device server. Supporting the USB isochronous data transfer standard, the UBox 2100 is designed to connect virtually any USB device to an Ethernet network. Users can remotely access USB devices, such as Webcams, speakers, sensors, MFDs, and hard drives, over the Internet. The UBox 2100 features Auto-Connect, which automatically connects and disconnects shared USB printers based on need. The Active Discovery feature will automatically load UBox 2100 on networked computers so that USB devices are available for immediate use. The UBox 2100 will be available later this month for $154.

• • • • •

■ **MOXA** released the NPort W2150 Plus and W2250 Plus, wireless device servers that support IEEE 802.11a/b/g and allow users to switch to 802.11a if there is too much traffic on 802.11b or g. The NPort W2150 Plus and W2250 Plus can connect serial devices, such as PLCs, meters, and sensors, to a WLAN. Communications software can then access the serial device from any location over the WLAN. The NPort W2150 Plus and W2250 Plus support WEP, WPA, and WPA2 encryption standards, and customers can set up RADIUS authentication in WPA and WPA2 enterprise mode. Users can set up roaming profiles to move between APs based on signal strength or priority. Additionally, the wireless device servers feature a built-in WLAN site survey tool that can help determine the appropriate number and placement of APs at a site.

• • • • •

■ **Onaro** announced VM Insight 1.0, software that provides virtual machine infrastructure management and helps maximize the benefits of virtual machine implementations. To help VM administrators deploy the correct ratio of VMs per physical server, VM Insight provides real-time service-level information on CPU, memory, I/O, network bandwidth, SAN bandwidth, and array performance. VM Insight 1.0 also provides a view of network storage service paths and changes, and VM administrators can view both the physical and virtual loads on the storage environment. By letting customers view virtual and traditional server deployments, VM Insight helps customers extend their network storage environment to support virtual machines.

• • • • •

■ **Opalis Software** has announced a new RBA (Run Book Automation) product for managing virtualized environments, the Process Catalog for Virtualization. This product helps to prevent VM sprawl, security exposures, and configuration errors. Process Catalog for Virtualization also assists in managing routine maintenance tasks, such as patching, ensuring compliance, and handling incidents. It provides the means for integrating monitoring, provisioning, virtualization, and service desk tasks, as well as automating incident, change, and configuration management

Go to Page 18

ETASIS ELECTRONICS CORPORATION

N+1 1U Redundant
EFRP-4553H

- 1500W+550W Output Power
- N+1 Redundant Configuration
- Meet 1U Rackmount System

N+1 2U Redundant
EFRP-2553G

- 550+550 watts Output Power

Support to Dual Nocona Processors

- N+1 Redundant Configuration
- Meet 2U Rackmount System

N+1 3U Redundant
EFRP-3300SG

- 600W+300W Output Power
- N+1 Redundant Configuration
- Meet 3U Rackmount System

N+1 4U Redundant
EFRP-4463G

- 1200W+460W Output Power
- N+1 Redundant Configuration
- Meet 4U Rackmount System

PSII Type 1+1 Mini Redundant Power Supply
EFRP-2462G

- 460+460 watts Output Power
- 1+1 Redundant Configuration
- PSII Mini Redundant Power

SPECIAL PRICE $190

WHOLESALER
RETAILER
WELCOME!

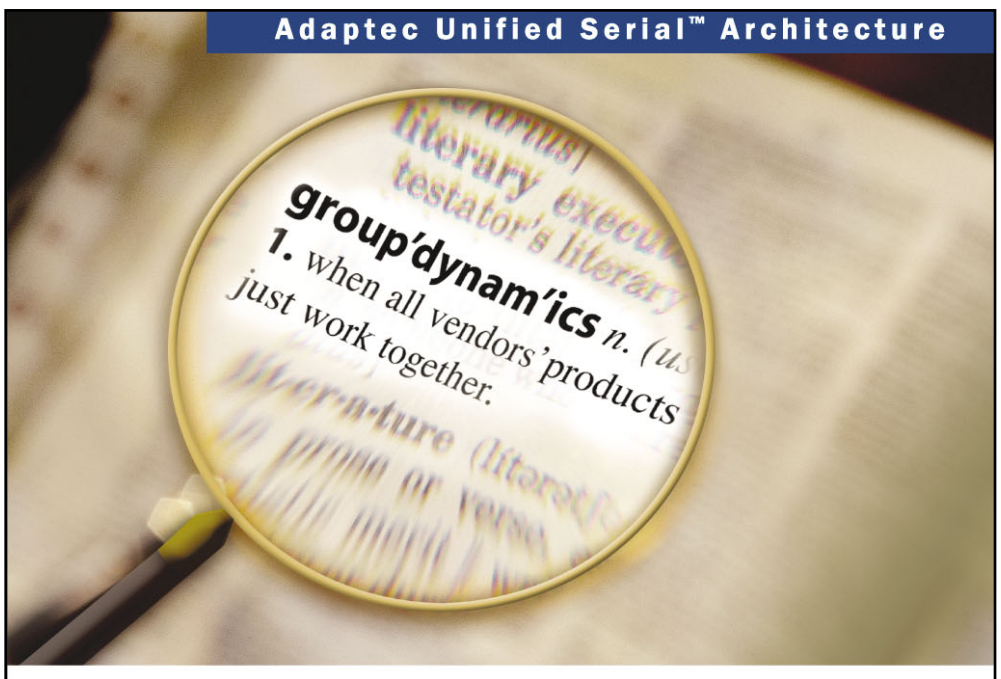
ETASIS ELECTRONICS

There's only one standard™

www.etasis.com.tw

18549 Gale Ave
City of Industry, CA 91748
Phone: (626) 965-6511
Fax: (626) 965-7676

Adaptec Unified Serial™ Architecture



When All the Vendors' Products in Your Storage Infrastructure Just Work Together

The key to good group dynamics is compatibility. Adaptec Unified Serial controllers are proven to work with over 99% of serial devices, making them the right fit for practically any storage infrastructure. They also connect with SATA drives and SAS drives, individually, or together in a single storage solution. No matter what drives you connect to, a solution built on Unified Storage Architecture grows as your business grows, up to 90TB (using 750GB drives).

Adaptec controllers pair perfectly with SATA and SAS products from industry leaders including AIC/Xtore and Hitachi Global Storage Technologies. Take advantage of the high performance and scalability of the Xtore XJ-SA26-212R-B, a 2U with 12-bay SAS/SATA JBOD sustaining up to 12TB SATA and 3.6TB SAS storage capacity plus daisy-chain capability – a truly cost-effective solution for the SMB and enterprise storage market.

Then, attach Hitachi Deskstar® 7K1000 1TB* hard disk drives which leverage the industry's most reliable perpendicular magnetic recording (PMR) techniques and the latest advances in silent acoustics, shock protection, and best-in-class power management.

Put it all together and you've got a storage infrastructure you know will work well together.

Free 30-Day Evaluation
Try the newest Adaptec Unified Serial controllers for 30 days. **Register now at www.adaptec.com/offer168**

AIC XTORE HITACHI Inspire the Next adaptec

*A Terabyte (TB) equals one trillion bytes when referring to hard drive capacity; accessible capacity may be less.

Copyright 2007 Adaptec, Inc. All rights reserved. Adaptec and the Adaptec logo are trademarks of Adaptec, Inc. which may be registered in some jurisdictions. All other trademarks and logos used are owned by their respective owners.
Adaptec, Inc., 691 South Milpitas Boulevard, Milpitas, CA 95035

Product Releases

Continued from Page 17

tasks. The new Opalis Software product will be available in Q4.

• • • • •

■ **Tektronix** announced enhancements to its converged network manager, GeoProbe Network Assurance. The solution performs real-time, multiprotocol, cross-architectural monitoring for IT administrators. These features allow IT personnel to proactively monitor and manage the networks, as well as diagnose and troubleshoot any problems that may arise. Monitoring capabilities have been enhanced to include Gb/IP, IuFlex interfaces, and A-interface over SigTran for real-time, end-to-end visibility of services running on mobile networks.

Physical Infrastructure

■ The Emerge DM2000 Desktop Manager ($4,495) is **Avocent's** new KVM. The company claims it's the industry's first Ethernet-based digital KVM for broadcasting and post-production workstations. When used with Avocent's Emerge ECMS2000 extender ($1,595), the USB-compatible Emerge DM2000 Desktop Manager offers virtualized access to video-editing systems, including those with widescreen resolutions up to 1,366 x 768.

• • • • •

■ **Chatsworth Products** now offers cable management products that support the latest cabling technologies, such as Category 6a and fiber. The systems have large cable capacities and extended cable management fingers. The MCS-EFX Master Cabling Section, for example, can include extended cable management fingers. According to Chatsworth, their design helps achieve high cable performance. By helping control the cable bend radius, customers can meet ANSI/TIA/EIA installation guidelines. Chatsworth can build custom setups for customers who have specific project requirements.

• • • • •

■ **Para Systems** has announced the Minuteman Entrust Line Interactive UPS Series. The products in this line of UPSes include the ETR500 UPS (rated at 500VA/300W/8A), the ETR700 UPS (rated at 700VA/420W/10A), the ETR1000 UPS (rated at 1,000VA/600W/12A), and the ETR1500 UPS (rated at 1,500VA/900W/12A). Each of the new products has four outlets for backup batteries and spike and surge protection (with four spike- and surge-protected outlets for accessory devices that don't require battery support). Two of the four outlets provide sufficient space for transformer blocks. Each of the new products can be installed vertically on a shelf in a rack or cabinet. Service and support is provided through Para Systems/Minuteman UPS with a three-year limited warranty on the product, a two-year limited warranty on the battery, and a $75,000 Platinum Protection Plan.

Security

■ **AdventNet** launched the newest iteration of its ServiceDesk Plus, which is a comprehensive help desk and IT asset management software that lets organizations improve the operating efficiency of the IT help desk. ServiceDesk Plus 7 is a Web-based application that handles request management, asset tracking, purchasing, contract management, a self-service portal, and knowledge base. ServiceDesk Plus 7 comes in Standard, Professional, and Enterprise Editions to suit medium-sized to large businesses. AdventNet offers a Free Edition for small businesses. The annual pricing for the Standard Edition starts at $595, Professional Edition starts at $1,495, and Enterprise Edition starts at $2,995.

• • • • •

■ **CCTsoftware** announced PDA Control, a program for tracking PDA devices within companies. Windows-based, the software is designed to allow managers to track loaned devices by employee name, ID number, and status, among other categories. PDA Control features reports that can be customized for efficient printing of important or pertinent information only. Data can also be exported into spreadsheets. For a three-user license, PDA Control costs $59 and is available for purchase from www.cctsoftware.com.

• • • • •

■ SAM.suite, **Centennial Software's** software asset management solution, was released. Employing the Centennial Discovery solution, as well as Centennial License Manager, SAM.suite features automation of some of the best practices outlined in the ISO 19770-1 SAM standard. SAM.suite is designed to reduce IT expenditures, achieve license compliance, and improve IT planning and management.

■ **Check Point** has announced that it is teaming with **Nokia** and **Intel** to bolster corporate network security. The collaboration will see Nokia, Check Point, and Intel offering new security appliances that inspect network traffic in multigigabit settings, as well as search deeper for attacks without slowing the network's performance. The first product from the joint effort is Nokia's IP2450 security platform, an appliance for Firewall/VPN use. Included in the appliance are a quad-core Intel Xeon 5355 processor and Check Point's CoreXL. The appliance runs on Nokia's IPSO operating system, as well as Nokia's Accelerated Data Path Card technology.

• • • • •

■ **Entrust** released GetAccess 8.0, which integrates seamlessly with Entrust IdentityGuard and offers highly secure and scalable Web single sign-on access. GetAccess 8.0 allows for protection of sensitive applications and data with a wide array of authenticators, including machine, knowledge-based questions, grid cards, various OTP (one-time-passcode) hardware tokens, as well as out-of-band OTP via voice, SMS, or email. Also, GetAccess can allow access to multiple applications through a single portal, increasing security and efficiency of IT operations.

• • • • •

■ **Intellitactics** and **Mazu Networks** have integrated Intellitactics Security Manager and Mazu Profiler to allow businesses to manage operations on their networks more effectively. Mutual customers of the two organizations will get daily automated value in the form of a command-and-control center, providing a holistic view of network activity, along with the capacity to monitor, analyze, and respond to threats from a single console. Customers will also benefit from proactive collection, notification, and analysis of events in the context of other security events across the network. Also through this integration, users will know what applications and services are

Go to Page 19

Wish You Could Have All Three?

Everything's already inside the StoreVault S500.

- NAS, SAN, and DAS right out of the box
- NetApp enterprise-proven technologies
- RAID DP protection against dual drive failure
- Instant back up and data recovery
- Simple on-the-fly provisioning
- Easy off-site data replication
- Starting at less than $6K

2007 Winner! Windows IT Pro Editor's Best Award

NetApp®

Check "Special Offers" For Big Savings! www.storevault.com

StoreVault™ A NetApp Division

Product Releases

Continued from Page 18

running, where the traffic is flowing, and if there are any changes that signify a network issue, security threat, or application problem.

• • • • •

■ **SurfControl** has announced E-Mail Filter 6.0, which now includes SurfControl Reputation Service, a fully integrated antivirus scanning engine, zero-hour virus protection, and extended compliance features. The software protects against blended threats, spam, phishing, viruses, and various types of malware. It also provides compliance dictionaries and default rules for HIPAA, GLBA, and Personal identifiers, as well as tools to prevent the theft of confidential data. The SurfControl Reputation Service feature automatically removes IP addresses that have a "bad reputation" to reduce the amount of spam received by users.

Servers

■ **Aberdeen** and **Supermicro** have together released the Stirling 444 server, which utilizes the four-way, quad-core Intel Xeon 7300 processor. The server is customizable and is designed for high-performance processing, power efficiency, and dependability. The 16-core computer can multitask by assigning tasks to specific cores to free others. With a 192GB memory capacity, 3Gbps transfer speed, up to 5TB SAS storage technology, and a 1,066MHz frontside bus, the Stirling 444 starts at around $8,000.

• • • • •

■ **HP** has announced new quad-core servers based on Intel's new Xeon 7300 series processors. The HP ProLiant DL580 G5 is a rack-based server with virtualization and mission-critical data center applications in mind. Meanwhile, the ProLiant BL680c G5 is a four-processor quad-core server blade and is part of HP's BladeSystem portfolio. Prices start at $9,219 for the DL580 G5 and $9,669 for the BL680c G5.

• • • • •

■ **Sun Microsystems** announced the Sun Blade X8440 Server Module, a blade server module that's designed for quad-core AMD Opteron processors. The Sun Blade X8440 Server Module is available today with dual-core, second-generation AMD Opteron Model 8222 processors (3GHz) and is scheduled to be available with quad-core AMD Opteron 8300 Series processors by the end of the year. The Sun Blade X8440 module provides up to 128GB of memory per blade, features six PCI Express interfaces per server module, and offers 192Gbps I/O throughput per blade. Additionally, the blade server is designed to support AMD's Dual Dynamic Power Management technology, which allows the cores and memory controllers to operate on different voltages. Sun also announced plans to incorporate quad-core AMD Opteron processors into a number of rack-mount and blade platforms, including the Sun Fire X4600 M2, Sun Fire X2200 M2, Sun Fire X4100 M2, and Sun Fire X4200 M2 servers.

• • • • •

■ **Supermicro** has announced new quad-core, quad-processor servers in 1U, 2U, and 4U configurations. These Supermicro SuperServers include the quad-core Intel Xeon Processor 7300 Series CPU. The new products include the 8015C-T, the 8025C-3R, and the 8045C-3R SuperServers, which feature low energy usage. The new servers are based on Supermicro's X7QCE and X7QC3 server boards and include a 64MB snoop filter. Each of the new products has 24 DIMM slots to support as much as 192GB of fully buffered DDR2-667 or DDR2-553 memory (using 8GB memory modules).

Storage

■ **Acard** unveiled two new SATA high-speed 1-to-1 DVD copy controllers, designed to let you easily and quickly copy text, audio, and video to CDs or DVDs. The ARS-2022S comes with an LCD display, and the AEC-7763AS has an LED display. Features of the copy controllers include an independent SATA interface, an automatic self-test upon powering on, USB support, a user-friendly interface, updateable firmware, and support for high-speed SATA DVD writers. The ARS-2022S also supports a 3.5-inch SATA hard drive for data storage and backup. Acard expects to begin shipping the ARS-2022S and AEC-7763AS starting in Q4.

• • • • •

■ The 1225SA is a new x1 PCI Express RAID controller from **Adaptec**. The 2-port, 3Gbps eSATA card provides RAID types 0, 1, and JBOD, along with hot-swapping capability for external drives. It features Adaptec's HostRAID integrated RAID technology and Adaptec Storage Manager management software. Pricing for the 1225SA controller card has been set at $75.

Adaptec also released three new iSCSI storage appliances. The Snap Server 700i series for midsized businesses facilitates the building of an IP SAN among Windows, VMware, or Linux servers, the company says. The 1U appliances support any mix of SAS and SATA drives, as well as 2U Adaptec SANbloc S50 expansion chassis, which allow scaling from 1 to 36TB. For mission-critical applications such as Exchange, SQL Server, or an Oracle database, the Snap Server 700i series appliances can be synchronously mirrored with failover protection. Prices start at $8,000.

• • • • •

■ **ATTO Technology** released two new RAID storage controller appliances, the FastStream SC 7700 and SC 7500. ATTO is targeting the appliances at 2 and 4k digital film production, audio production, email compliance, data mining and warehousing, post-production, and disk-to-disk backup environments. The 7000 series support RAID 0, 1, 4, 5, 6, 10, 40, 50, and 60 configurations, as well as JBOD and DVRAID.

The 1U 7700 is an external appliance that supports Fibre Channel RAID storage arrays. It offers data protection to JBOD storage and also offers data protection and high-speed access to the RAID arrays. The appliance boasts two 4Gb Fibre Channel device ports and dual 4Gb Fibre Channel device host access ports. The ATTO FastStream SC 7500 integrates with SAS and SATA storage and includes eight 3Gb SAS/SATA device ports and four 4Gb Fibre Channel host access ports. OEMs can integrate the appliances into SAS/SATA array enclosures or take advantage of the SC 7500 to use it as an embeddable micro ATX-based RAID controller for providing RAID functionality and intelligence features.

• • • • •

Go to Page 20

PROCESSOR.COM

Find Current & Past Articles Online

Did you know our Web site, www.Processor.com, includes an electronic archive of all the articles we've ever written? That makes Processor.com the perfect choice if you need to locate an article about a particular product; want to get up-to-date with our coverage of a specific data center-related topic, technology, or product category; or just need access to our articles and information and don't have a print copy handy.

There are two simple ways to access our valuable editorial articles right from our home page: the **All-In-One Search** and **Cover Articles** areas.

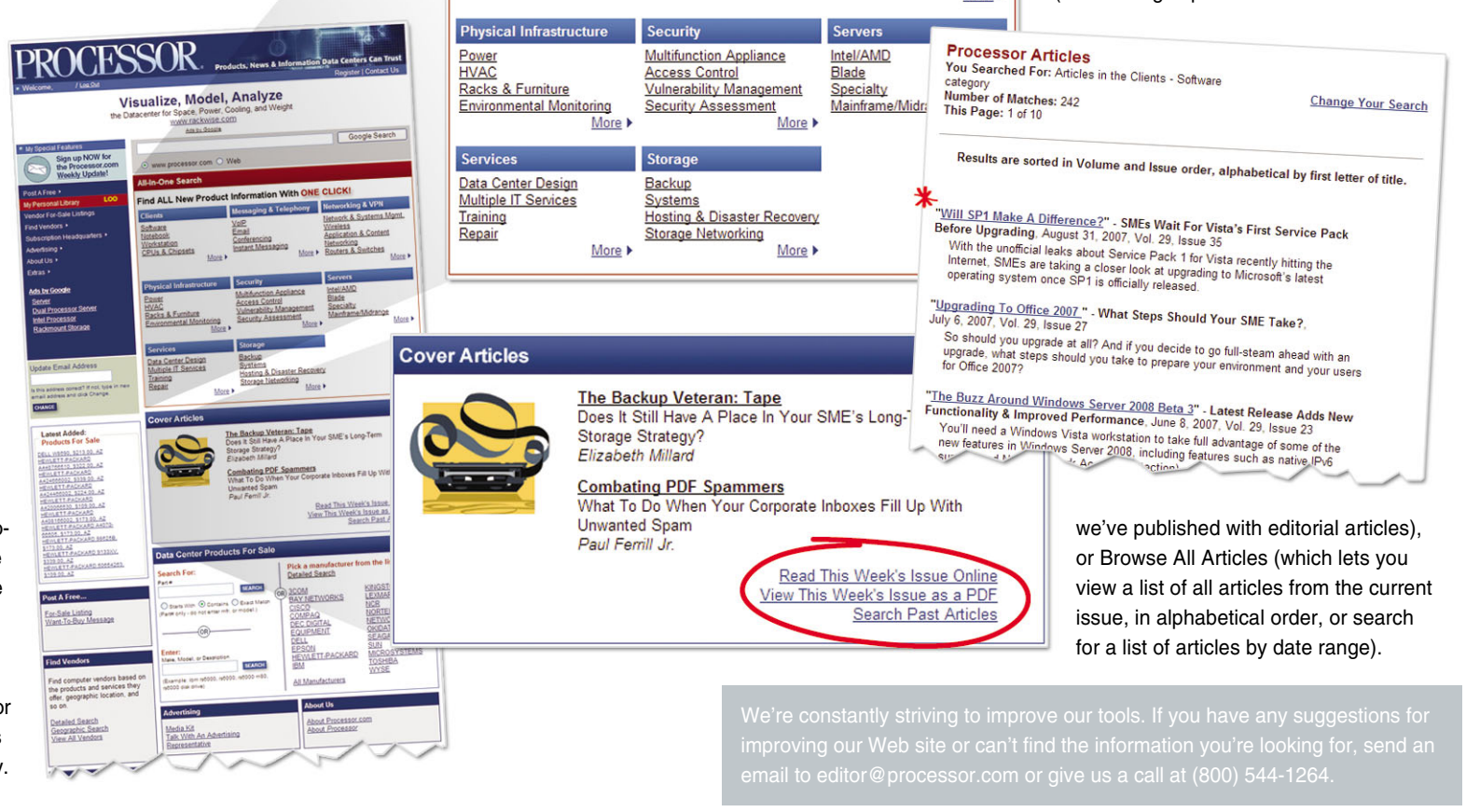
If you're looking for articles and information related to a specific product category, simply click the category link you want in the All-In-One Search area near the top of the home page (if you don't see the category you're looking for, be sure to use the More links to see a full list of product categories in each area).

Once you've clicked a product category, you'll see a page with articles and other information related to the product category you chose. Results are sorted by date and include a brief description. Click one of the links to access the entire article.

This is the best way to get information when you're researching a product area or need to quickly get up-to-date with what's happening regarding a certain technology.

For electronic versions of complete issues, check out the Cover Articles section below the All-In-One Search area. You'll see links to the two articles that appear on the cover of the most current issue. We offer two ways to view the most recent week's issue: You can either click Read This Week's Issue Online to view a table of contents page with links to all of that week's articles, or you can click View This Week's Issue As A PDF to view the entire issue.

From the home page, you can click Search Past Articles to link to our Article Search page. You can enter a keyword or phrase to search by (particularly helpful if you want to see all of our coverage regarding a particular technology or topic). Be sure to click the radio buttons next to ALL Words, ANY Words, or Exact Match to better refine your search. From the top of the Article Search page, you can click the links to either see This Week's Issue, Browse All Issues (which brings up a list of all the issues we've published with editorial articles), or Browse All Articles (which lets you view a list of all articles from the current issue, in alphabetical order, or search for a list of articles by date range).



We're constantly striving to improve our tools. If you have any suggestions for improving our Web site or can't find the information you're looking for, send an email to editor@processor.com or give us a call at (800) 544-1264.

Product Releases

Continued from Page 19

■ **AxiomTek's** storage division has released a new series of ultra 320 LVD SCSI-to-SATA II storage subsystems. The series includes the Fastora DAS-208SAE, DAS-210SAE, and DAS-212SAE. The series come in 8-, 10-, and 12-drive bay versions in capacities of 6, 7.5, and 9TB, respectively. AxiomTek says by combining high-capacity SATA II drives with dual ultra 320 LVD SCSI channels, the 2U rackmountable subsystems give users cost benefits and high performance at an affordable price. The subsystems are best suited for data-intensive applications in surveillance, media streaming/editing, and other fields that require 24/7 operation.

• • • • •

■ **EMC** has released two products, Avamar Virtual Edition for VMware Infrastructure and Avamar Data Store. Avamar Virtual Edition combines backup and recovery with replication, so two recovery methods can ride on a shared virtual environment, eliminating the need to produce physical drives to restore lost data. Avamar Data Store is designed to increase the speed at which data is duplicated to a backup drive and is available in two versions: a scalable multinode model, which is designed to be deployed in a data center where data is being recovered from multiple remote locations, and a single-node edition, which is designed for deployments in distributed or remote offices that require faster local recovery performance.

• • • • •

■ **FalconStor Software** released a CDP (Continuous Data Protection) Virtual Appliance for VMware. The FalconStor Continuous Data Protection Virtual Appliance For VMware supports physical and virtual VMware machines, offers any-point-in-time access, and integrates with the VMware ESX server so companies can cease mandatory restores. According to FalconStor, the software virtual appliance can be deployed in less than 10 minutes. It offers a replication option that can extend the protection to remote sites, as well as snapshots for immediate access without data loss. It also offers journaling and mirroring, can recover files and databases, and features the HyperTrac, which offers backup acceleration. Additionally, it supports P2V (physical-to-virtual) and V2V (virtual-to-virtual) recoveries of servers and guest systems.

• • • • •

■ **LaCie** has released the Biggest Quadra, a quadruple-interface four-disk RAID device for workstations. The Quadra includes 4TB of capacity and provides universal compatibility via its FireWire 800 and 400, USB 2.0, and eSATA interfaces. In addition to providing EMC Retrospect Express backup and data protection, the Quadra supports RAID 0, 0+1, 5, and 5+hot spare. The unit's four drives are removable, hot-swappable, and lockable. The Quadra also reacts to drive, fan, or power failures and will power down automatically at 55 degrees Celsius. The Quadra will be available this month in a 2TB version and next month in 3 and 4TB versions.

• • • • •

■ **LeftHand Networks** has introduced the LeftHand Networks VSA (Virtual SAN Appliance) for VMware ESX Server. By clustering the internal storage within multiple x86 server hosts running VMware EXS Server, it creates a full-featured SAN that permits high availability of data and applications in VMware Infrastructure environments. The VSA is a cost-effective shared storage solution through a redundant SAN with automated failover. VSA and VMware are combined to provide an automated, high-availability solution for both application servers and storage, featuring failback between physical machines. Additionally, the VSA for VMware ESX Server provides an increase in organization where it was not previously considered.

• • • • •

■ **MicroNet** has launched the Fantom Drives G-Force MegaDisk NAS appliance, a new NAS solution that combines multiterabyte capacity, an integrated print server, iTunes music server, and zero-touch automated backup. It's based on a dual-core processor, and it provides a starting capacity of 1TB. NTI Shadow presents real-time, continuous backup, along with scheduled backup to almost any storage device. The user-friendly interface offers the ability to securely back up and safeguard important data files. Additionally, NTI Shadow gives users custom file type filtering, version control, and drag-and-drop file restoring.

• • • • •

■ **NetApp** announced the NetApp FAS2000 product line, storage systems that help customers to consolidate DAS (direct-attached storage) into a single networked solution. The FAS2000 storage systems allow IT managers to provision new datasets without hardware reconfiguration. The NetApp FAS2000 system pools storage to help allocate data resources as needed, and the FAS2000 series also provides point-in-time copies of an application set to simplify backup and restore operations. The FAS2000 product line includes Snapshot and RAID-DP (RAID 6) technology, and with A-SIS technology, NetApp helps avoid duplicating redundant data. FlexVol thin provisioning software and NetApp FlexClone let users gain thin provisioning capabilities and accelerate cloning. NetApp provides application-centric data management software that supports Exchange, Oracle, SAP, SharePoint, and SQL Server.

• • • • •

■ **Onaro** released SANscreen Capacity Manager 1.0, SANscreen Provisioning Manager 1.0, and updates to SANscreen Service Assurance. The applications are designed to extend IT Service Management and IT Automation to networked storage and accelerate application delivery. The Onaro SANscreen product suite includes Service Insight, Service Assurance, Application Insight, Replication Assurance, Capacity Manager 1.0, and Provisioning Manager 1.0. To help extend data center automation to storage, SANscreen features real-time, heterogeneous service-level views of the storage environment. To integrate storage into the IT service delivery chain, SANscreen's actionable service-level information is consumable by both storage teams and nontechnical storage users. SANscreen Capacity Manager 1.0 helps track the allocation of resources to an application with real-time global allocation data, global charge-back information, and automated tiering assignment rules.

• • • • •

■ **Overland Storage** has announced the REO 4500c D2D VTL appliance, which provides twice the capacity for backup data

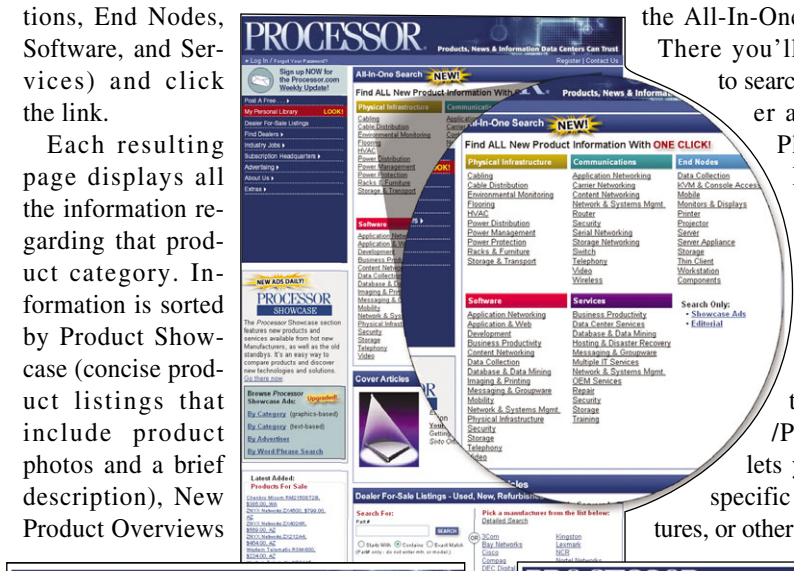
Looking For Products?

Check Out The All-In-One Search At Processor.com

THE ALL-IN-ONE SEARCH AREA on our Web site, www.Processor.com, makes it easy to find detailed information on products with just one click. Simply find the product category you need (categories are sorted under five areas: Physical Infrastructure, Communications, End Nodes, Software, and Services) and click the link.

Each resulting page displays all the information regarding that product category. Information is sorted by Product Showcase (concise product listings that include product photos and a brief description), New Product Overviews (more detailed product-focused editorial articles), and Most Recent Articles (more general articles covering products and information related to that category).

If you know the product name or manufacturer you want, click the Showcase Ads link under the Search Only section in the All-In-One Search area. There you'll find options to search By Advertiser and By Word/Phrase Search. By Advertiser lets you quickly link to all products offered by a specific manufacturer. By Word /Phrase Search lets you search for specific products, features, or other keywords.



Product Releases

compared to older technologies. Together with Overland's DVT (Dynamic Virtual Tape) technology, the REO 4500c can combine hardware compression and on-demand capacity expansion. The REO 4500c also features up to 27TB of raw data capacity (with up to 45TB of virtual tape capacity through compression); dual 4Gbps Fibre Channel and iSCSI host connectivity; dual redundant power supplies; secure Web-based management; and support for up to six VTLs, up to 32 virtual tape drives, up to 512 virtual cartridges, and up to 16 initiators per VTL device. Prices for the Overland REO 4500c start at $36,155.

. . . . .

■ The SuperLoader 3A tape autoloader from **Quantum** now comes in an LTO-3 version with up to 6.4TB of native capacity. The network-attached tape storage unit is being pitched to the broadcast and professional video market with support for MXF timecode and metadata awareness. Quantum says that the system can transfer DVCPRO content at 20X real-time speed and DVCPRO High Definition content five times faster than real time. Pricing starts at $11,950.

. . . . .

■ **Seagate** announced the Cheetah 15K.6 hard drive, which boasts a 28% increase in sustained data transfer rates compared to its previous-generation drives. Using second-generation perpendicular recording technology, the new Cheetah 15K.6 provides a blend of storage capacity and performance. This new drive is available in capacities of 450GB, 300GB, and 147GB. Additional features include a claimed reliability of 1.6 million hours MTBF (mean time between failures), a choice of SAS or FC interfaces, and a five-year limited warranty. The Cheetah 15K.6 includes Seagate PowerTrim technology, which dynamically optimizes drive power consumption at any level of activity. The Cheetah 15K.6 is scheduled to begin shipping in the first quarter of next year.

Seagate also announced a 1TB desktop hard drive that uses government-grade encryption and a new 250GB 2.5-inch notebook hard drive. The Barracuda FDE (full disk encryption) hard drive is the world's first 3.5-inch desktop PC drive with native AES encryption to prevent unauthorized access to data on lost or stolen hard drives or systems. Offered in capacities up to 1TB, this 7,200rpm encrypting desktop PC hard drive is built with Seagate DriveTrust Technology, which delivers simplicity, transparency, and cost-effectiveness for securing digital information. The Seagate security platform automatically protects data stored throughout the drive, not just selected partitions or files, and its security functions operate independently of the drive, preserving the hard drive's full performance.

The new Momentus 5400.4 hard drive combines up to 250GB of capacity with a speedy 3Gbps SATA interface. This 2.5-inch, 5,400rpm drive delivers 250GB of capacity on two platters. Seagate's newest notebook drive packs operating and non-operating shock resistance of 325 Gs and 900 Gs, respectively. The entire series of Momentus hard drives is lean on power consumption and produces little noise while running. The Momentus 5400.4 is expected in the fourth quarter of this year, and the Barracuda FDE is scheduled to ship next year.

OPINIONS
INFO-TECH • INSIGHT

Like It Or Not, Data Center Energy Efficiency Metrics Are Coming

IT managers, take heed: Challenging new metrics designed to scrutinize the power consumption of your data center are coming. Data center energy use has hit the radar of governments and IT vendors alike. Recent evidence demonstrates the data center's vociferous yet seldom-noticed thirst for power. However, you can relax a little; the regulations intended to optimize and reduce this appetite for kilowatts remain on the horizon, so you can prepare to meet them.

In August, the U.S. EPA (Environmental Protection Agency) released a landmark report on server and data center energy efficiency. The EPA concluded that data center power consumption has doubled between 2000 and 2006 to a cost of $4.5 billion; if current trends continue, power bills will rise to $7.4 billion in 2011. Furthermore, the EPA reports that 50% of the power bill is now dedicated to cooling servers with ever-increasing heat densities and that the government's own data centers are responsible for a full 10% of last year's consumption. By 2011, the U.S. government alone will face a data center energy bill of $740 million, while the country will require 10 new power plants to satiate demand.

In spite of such facts, the report lacks punch. While describing changes needed in power consumption benchmarking and measurement, the EPA offers few vital recommendations. Although the U.S. government can lead the way toward acquiring demonstrably efficient equipment and developing helpful metrics for optimizing data center power consumption, the report stops short of outlining specific goals. Using Energy Star, a voluntary but government-mandated energy efficiency program, the EPA saved U.S. energy costs of $14 billion last year alone. However, by failing to provide similar hard-and-fast milestones for a data center program, the EPA misses its chance to mandate development of industry standards and metrics for data center energy efficiency.

The Pace Of Change Is In Your Favor

Fortunately, a lack of urgency on the EPA's part helps IT managers today. Regulatory requirements for standardized, industry-wide measurements and metrics will materialize, but not quickly. In the meantime, IT departments can jump ahead of probable regulatory measures by measuring data center energy use and establishing their own targets for reducing power consumption.

For most IT departments, two problems hinder consumption reduction efforts. First, IT cannot obtain uniform information on the real power consumption of data center equipment from vendors and usually have even less information available about their own current energy use. Second, even if this data is obtained, the IT department has little motivation to use it. Despite the energy-intensive nature of the server room, the "facilities" department of the enterprise is often responsible for power consumption. If an incentive for increasing energy efficiency exists at all, it resides outside the IT department's report card. These inter-related issues must be tackled regardless of whether industry-wide regulations materialize; furthermore, cost savings from energy efficiency can be significant. If the power-hogging, heat-breathing data center is a dragon, it cannot be tamed without metering and aligned incentives.

The knight doesn't know what armor to wear without knowing the strength of the dragon's breath. Similarly, unless IT can baseline and analyze its data center energy use, it has no way of knowing how changes to the data center make a difference in power consumption. Instead of attempting to discern consumption through the entire building's power meter, data center power inputs should be metered. Meters can be monitored by software that generates a fairly accurate dataset on the consumption of components, which forms the baseline for improvement.

Unite The Townspeople

When infighting pits townsfolk against each other, they have little chance of defeating the dragon. Likewise, when IT takes little note of power consumption and facilities has no control over the data center's innards, energy-efficiency improvements are unlikely. The CIO and senior management must create incentives for IT to save power and align those incentives with facilities to encourage teamwork on such an initiative. In fact, with metering often falling in the domain of facilities, this step may even come ahead of any modifications to how power is measured.

If no green governance (or cost savings) policy exists in the enterprise, CIOs could even go as far as treating an aligned facilities/IT data center improvement initiative as a pilot for such a policy.

The government can greatly influence the data center industry to develop a standard metric to measure whole data center power consumption and enable widespread change. Moreover, the cost savings available through such initiatives will be too attractive to ignore, regardless of regulatory pressure. Prepare for the coming metrics by metering the data center, base-lining consumption, and aligning IT and facilities. Have metrics in place to demonstrate significant IT and facilities cost reduction victories. P

Send your comments to infotech@processor.com

AARON HAY

AUTHOR

Aaron Hay is a research consultant with Info-Tech Research Group. He possesses expertise in knowledge and research management, telecommunications, customer relationship development, marketing, and sales. Previously, Hay was engaged by Cushman & Wakefield LePage to develop a complete database of strategic tenants and leasing assets in a major Canadian city core. Hay currently focuses on how to improve the IT research process to provide maximum value for the divergent stakeholders present in every organization.

82°
Skin starts to warm.
Ice starts to melt.
Equipment starts to fry.

For over 40 years, we've been the industry innovator in precision environmental control.

Specializing in:
- Precision cooling units built to your specifications.
- Short lead times.
- Advanced control systems.
- Ultra-reliable technology.

DATA AIRE INC.
The reliable choice in precision cooling equipment.
714-921-6000
Get your free Building Owner's Guide to precision cooling at www.DataAire.com

SUMMER IS HERE.
Your servers are overheating.
WHO YOU GONNA CALL?

MOVINCOOL
THE #1 SPOT COOLING SOLUTION

MULTIPLE UNITS FOR MULTIPLE SOLUTIONS
- A versatile line of powerful, portable and permanent units
- Capable of cooling small or large spaces efficiently
- Compact and self-contained with no refrigeration piping required
- Select from 7,000 - 60,000 Btu/h of performance verified cooling

Visit movincool.com or call 800-264-9573 to find the right solution for you.

©2007 DENSO Sales California, Inc. MovinCool is a registered trademark of DENSO Corporation.

Shaking Up Exchange Backup Efforts

Cemaphore's MailShadow Provides A Scalable Approach To Email Disaster Recovery

by Darrell Dunn

• • •

BUSINESSES WITH operations in California understand the potential for IT service disruption due to earthquakes. But last spring, when a 4.0 quake rattled the San Francisco Bay area near the 100th anniversary of the great quake that nearly destroyed the city in 1906, it was a defining moment that led nSpired Natural Foods (www.nspiredfoods.com) to rethink its email disaster recovery efforts.

A provider of natural and organic food products, such as SunSpire natural chocolates and MaraNatha organic nut butters, nSpired operates by intention with a very lean IT staff. Monitoring and maintenance of critical business applications by the small staff require intuitive hardware and software installations, says Gordon Chapple, CEO of nSpired.

One of nSpired's most critical applications is Microsoft Exchange, which it uses for email, contact management, and calendar data. Last year's earthquake left Chapple concerned and wanting to develop a more comprehensive disaster recovery plan.

"The earthquake shook up the CEO a little bit," says Jeff Patterson, an independent consultant nSpired hired to improve its Exchange deployment and management. "He felt a little nervous about what might happen if his email service was disrupted," says Patterson. "He wanted to create something that was both offsite and worked in near real-time in the event of an emergency or outage."

MailShadow replicates data from the primary Exchange servers to an active recovery Exchange server in a secondary location.

To The Rescue

The company considered several options for creating an email disaster recovery strategy that would incorporate the needs of its headquarters in San Leandro, Calif., and branch office in Ashland, Ore. One option was to work with an electronic vaulting service provider, but at a cost of about $1,250 a month, it was prohibitive, Patterson says.

Patterson instead turned to Cemaphore Systems (www.cemaphore.com), a software company based in San Mateo, Calif., and Provo, Utah, that specializes in applications to improve the operation of Microsoft Exchange. A Microsoft Gold Certified Partner, Cemaphore's flagship product is MailShadow, a disaster recovery platform for Exchange.

"Businesses are relying more and more on email as their primary vehicle of communication," says Renata Budko, director of product management for Cemaphore. "From small companies to highly departmentalized organizations in industries like finance and insurance, email has become very critical to the business process. Businesses cannot afford an interruption to their email systems."

MailShadow replicates data from the primary Exchange servers within a business to an active recovery Exchange server in a secondary location. In the event of an outage at the primary site, MailShadow uses the Active Directory infrastructure to redirect the email and email users to the recovery Exchange site, where all the historic email, calendar, and contact information remains available and unchanged.

Using MailShadow, Patterson was able to help nSpired build its own Exchange replication platform at a cost of about what it would have taken for one year of services from the electronic vaulting service provider. The only recurring cost is the Cemaphore subscription fee, and Cemaphore capitalized the cost of building out the system over several budget years.

The Implementation

With the campuses in San Leandro and Ashland connected by a dedicated T1 line, Patterson was able to create a disaster recovery strategy for nSpired by using the headquarters as the primary Exchange server site and Ashland as the backup Exchange server site. MailShadow only replicates email once and uses substitution and compression technology to enhance WAN efficiency, which allowed nSpired to replicate a set of 60 company mailboxes without putting stress on interoffice connectivity, Patterson notes.

For nSpired's first deployment of MailShadow, the recovery servers were prestaged at the California headquarters, and initial messaging and file data was replicated to the recovery servers. The recovery servers were then shipped to Ashland. After being installed in Ashland, the recovery servers synced with the primary servers in San Leandro, allowing every email transaction that occurs at the primary site to be replicated to the active recovery servers at the recovery site.

Should there be a problem with the primary Exchange server, even for something as simple as routine maintenance, MailShadow will trigger a notification to anyone currently logged on to the email system that Exchange will need to temporarily shut down. Once shut down, the email is immediately brought back up on the secondary server. The downtime is only minutes, Patterson says.

Patterson says the new Exchange backup platform got an unscheduled test not too long after the initial deployment. About 3/4 of all the RAM from one of the recovery servers was mistakenly redeployed, leaving the backup server with minimal memory. The problem did slow the email synchronization process, but MailShadow continued to work and provide a backlog of transaction data. Once the problem was identified, the memory was restored to the server, correcting the issue.

"When I saw what had happened, I ran over to the site in a panic only to find people happily working and sipping their coffee," Patterson says. "They hadn't even noticed there was a problem. They didn't notice because they are now operating with a distributed file system that is extremely stable."

Cemaphore Reliability

Formed in 2002, Cemaphore has about 150 customers using MailShadow to manage Microsoft Exchange server installations handling a few hundred users to as many as 40,000 users. In addition to providing protection in the event of natural disaster, MailShadow also provides backup for storage and server hardware failures, connectivity problems, and database corruption.

"I think a lot of businesses are surprised to learn that Exchange downtime is more often the result of a data corruption issue than from a natural disaster," Cemaphore's Budko says. "And today people are accessing and utilizing Exchange more often than ever from various types of equipment, including laptops, BlackBerrys, and other types of smartphones. People get used to having access to their email, and if it's not available, it can really affect the business process significantly."

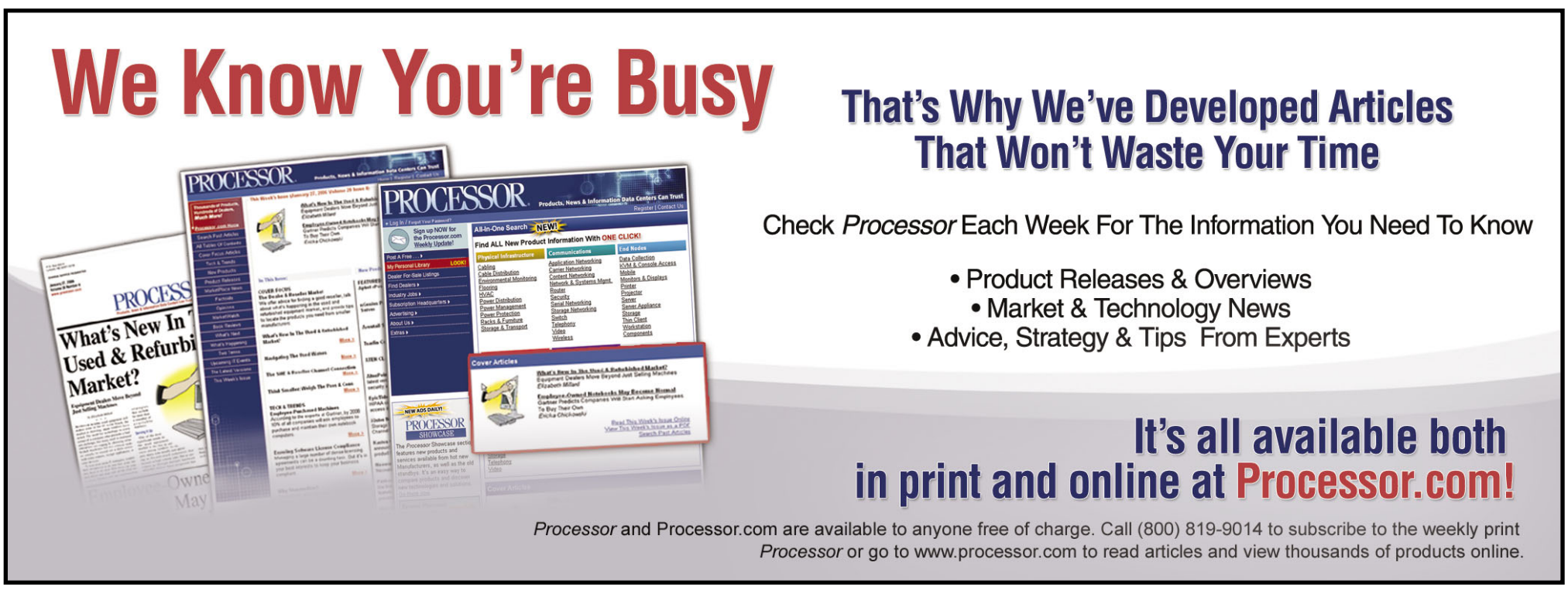
MailShadow also provides for replication on a per-mailbox basis, in contrast to traditional disaster recovery solutions that work by mirroring every block or file on a business' Exchange servers. A business can start an email backup strategy with MailShadow by choosing to replicate only the most critical mailboxes and scaling as requirements and budgets change.

Cemaphore Systems MailShadow

A disaster recovery platform for Microsoft Exchange that allows a business to set the parameters of risk management strategy.

After an incident left the backup server with very little memory, MailShadow worked as it was designed to, and "[the employees] hadn't even noticed there was a problem. They didn't notice because they are now operating with a distributed file system that is extremely stable," says Jeff Patterson, an independent consultant nSpired Natural Foods (www.inspiredfoods.com) hired to improve its Exchange deployment and management.

(800) 644-7839
www.cemaphore.com



Balancing Act

Weighing In On Strategic Vendors For Security

by Sandra Kay Miller

• • •

ACCORDING TO COMPREHENSIVE research performed by Illinois-based Nemertes Research Group, 43% of companies rely on a single strategic vendor for security. Andreas Antonopoulos, senior vice president and founding partner of Nemertes Research, as well as a CISSP (certified information systems security professional), stressed that each participant in the study was individually interviewed as opposed to sending out questions randomly.

"I think that what these results demonstrate is the best-of-breed approach we've followed in security for many years isn't working," notes Antonopoulos, meaning that as individual threats have emerged, so has a separate solution provided by a different vendor. "You end up with too many point solutions within your infrastructure, which have little or no capability to integrate with each other, and then you have far too many monitoring stations, consoles, reporting systems, and auditing systems," he adds.

The result is that too often it becomes a nightmare to try to integrate multiple solutions in a heterogeneous environment.

Why Security Is Different

When it comes to security vendors, there are significant fundamental differences setting them apart from other core technologies. Antonopoulos explains that first and foremost, no other technology markets face an "arms race" situation. "With security, you're competing against an external foe who is innovating just as fast as we are." New threats are emerging all the time, which results in the security market innovating at a faster pace than any other in the industry.

Secondly, security has yet to follow the typical technology cycle of rapid innovation followed by standardization or "commoditization," as Antonopoulos referred to the process in which technology becomes more interoperable. "For example, if you take a server today, you can plug any type of hard drive into it. You don't need to worry about what drive works with what server—it's completely interoperable," he says. But on the other hand, the security industry is far from the point where disparate security solutions can integrate. "I can't get just any spam vendor and have their software work with my antivirus management console. It's just not going to happen," notes Antonopoulos.

Marcus Ranum, internationally renowned security expert and chief of security at Tenable Network Security (www.tenablesecurity.com), goes a step further in speculating on the lack of integration within the security industry. "Most security products are really poor at interoperating (intentionally) outside of the vendor's portfolio, so the customers don't have much choice," he says.

Single Solution

While the utopian hope for integrated security might seem like a pipe dream for some IT shops, UTM (unified threat management) appliances and all-in-one security suites have been finding favor, especially in small to medium-sized enterprises.

In his 2007 to 2011 forecast, Romain Fouchereau, IDC security research analyst, predicted, "The UTM security appliance market will continue to grow as a valid security solution for both the SMB and the enterprise market due to its adaptability and ease of integration."

All-in-one security suites from global vendors continue to introduce innovative new solutions to keep pace with evolving security needs. Earlier this year, CA (ca.com) responded to the rate at which technology is mobilizing with the release of the CA Internet Security Suite 2007 and CA Desktop DNA Migrator 2007 software on a pair of 2GB credit card-sized flash drive memory cards, which come preloaded with the security software and can be installed on up to three computers.

The strategic vendor approach flies in the face of security proponents who for years have been preaching defense-in-depth. Antonopoulos counters their reasoning by explaining that using a single strategic vendor for security is all about balancing risk with budget. Smaller companies often do not have the staff with the skills to effectively manage multiple security solutions from different vendors as compared

Go to Page 26

Best-of-Breed Products vs. Strategic Vendors

Each solution for security has both advantages and disadvantages.

	Pros	Cons
Best-of-Breed	• Offers cutting-edge technologies • Much more agile in response to changes and customization	• Often acquired by larger companies to become part of a strategic vendor solution • Less capital for future research and development • Possible challenges integrating with existing security products and infrastructure
Strategic Vendor	• Centralized management for easier administration • Interoperable with other security facets and infrastructure • Less expensive	• Slower to respond to industry trends • Poorer customer support • Single point of failure

hergo® TECHNICAL FURNITURE

#1 QUALITY SOURCE FOR WORKSPACE SOLUTIONS

An original equipment manufacturer since its inception in 1992, Hergo remains a trusted source for technical furniture, computer enclosures/ cabinets, relay racks, LCD mounting solutions and command & control centers.

We are technology people who understand your computing workspace needs.

As part of our 100% customer satisfaction guarantee, Hergo offers free space design and consultation, including 3-D CAD drawings and simulated environment renderings to ensure maximized user space and productivity.

Hergo is an approved supplier to all branches of the U.S. Government.
GSA Contract # GS-29F-0133G

888.222.7270
hergo.com

▼ RACKMOUNT ENCLOSURES / CABINETS ▼ RELAY RACKS ▼ LCD ARMS & ASSEMBLIES

▼ OPEN RACKS | SERVER FARMS AND DATA CENTERS

▼ COMMAND AND CONTROL CENTERS ▼ PACS WORKSTATIONS ▼ TRAINING DESKS ▼ MOBILE CARTS

hergo® TECHNICAL FURNITURE 56-01 55th Avenue, Maspeth, NY 11378 | Tel: 888.222.7270 | Fax: 888.410.0671

Terms, specifications & appearance are subject to change without prior notice • © 2007 hergo®

WAN Optimization Market Overview

Squeezing More Throughput From Existing Network Pipes Is An Attractive Option For SMEs & Branch Offices

by Kurt Marko

• • •

WIDE-AREA NETWORKS, aka WANs, are the backbone of today's distributed enterprise, and their ubiquity, along with increasingly aggressive pricing, has enabled a host of new applications for dispersed and mobile workforces. With a variety of broadband technologies competing for market share, high-performance WAN links have become cost-effective for both large and small businesses, yet demands on these pipes still often outstrip their capacity. Whether from new business continuity and disaster recovery processes, data center and server consolidation, new collaborative Web 2.0 applications, or richer (read: more bandwidth-hungry) content, seemingly inexhaustible requirements for greater WAN capacity can make a network manager's job a study in trade-offs and compromises.

Augmenting WAN capacity is much easier and less expensive than a decade ago; however, it's still not a cheap proposition, particularly overseas. When adding a fatter pipe isn't an option, WAN optimization appliances can make more efficient use of existing connections and may even yield better performance than merely throwing bandwidth at the problem.

Types Of WAN Optimization Technologies

WAN optimization, sometimes known as WAN acceleration, "has been a red-hot market lately since it takes many of today's critical IT initiatives and simply makes them work better," says Robert Whiteley, senior analyst of enterprise networking at Forrester Research. Whiteley, who recently surveyed the WAN optimization market for a Forrester research report, says these devices use technologies to enhance network performance for two broad classes of use. The first set of techniques—notably caching and compression—focuses on helping data-centric tasks, such as remote file access or data replication. Another set of technology tricks—protocol-specific optimizations and traffic management—targets improved application performance for such common tools as Microsoft (www.microsoft.com) Outlook, Exchange, and SharePoint or real-time communications such as VoIP.

The latest WAN optimization appliances use more sophisticated techniques for caching local data than previous application-specific solutions such as Web proxies. Given the significant technical improvements, some vendors prefer to use the term data reduction instead of caching. According to Jeff Aaron, director of product marketing for Silver Peak, the key distinction is that traditional caches only operate on objects, such as single files, Web pages, or images, while data reduction technology can identify redundant data within chunks of file blocks or network packets. He says Silver Peak's solution is conceptually similar to data deduplication technology used in many storage appliances.

Among the other acceleration techniques, Forrester's Whiteley says that protocol-specific optimizations focus on increasing performance of so-called "chatty" protocols, such as CIFS (Common Internet File System; Windows file sharing) and MAPI (Messaging Application Programming Interface; Windows email) that were designed for low-latency LANs and thus can significantly degrade over a less responsive WAN. He adds that traffic management, another weapon in the optimization arsenal, is used to prioritize different types of packets through QoS techniques, such as traffic classification, queuing, and rate shaping. Aaron highlights another key optimization technique, mitigating packet loss and dealing with out-of-order packets—common problems on WAN links.

Product Evaluation Criteria

Whiteley identified 65 criteria as he evaluated WAN optimization vendors for his Forrester report; however, he weighted elements of their current product offerings most heavily because he believes that in such a nascent market, existing products are more telling of a vendor's leadership than its strategy or market share. In analyzing these products, he ranks the most important characteristics as: the product's overall architecture, the number of optimization techniques supported, scalability (both up in bandwidth and out in number), and manageability or usability.

After customers have developed a vendor short list and start evaluating specific products, Silver Peak's Aaron feels it is most important to conduct tests in a real-world environment. He encourages customers to test on "the hardest link possible—if you have 30 remote T1s coming into a DS3, test on the DS3 to make sure you have the scalability." Aaron also advises users to identify the five applications causing the most "pain" on their networks and use these in performance benchmarking. He also encourages IT to get company security people involved in the evaluation because the presence of local data stores on most WAN optimization appliances may lead to security concerns if the disks aren't properly encrypted. Finally, Aaron says if evaluators are testing within a lab environment and not on an actual WAN link, they should insert some loss and latency into the network with a WAN emulator to create test scenarios matching their typical and worst-case conditions. He adds that it is actually quite safe to test most optimization boxes on a production network because they have a pass-through circuit that automatically shunts the appliance in case of failure.

Major Vendors & Products

Whiteley's evaluation concluded that the Riverbed Steelhead line and Juniper Networks WX and WXC appliances led the field. He judged that Riverbed, with offerings from its models 50 and 100, targeted at small offices, to its 6020, designed for large data centers, is "the clear leader in the WAN optimization market." He felt that Silver Peak, which also offers a range of models from the small-office NX-2500 to the enterprise-class NX-8500, "provided the most technologically superior solution" with the ability to scale to more than 500Mbps, although he had concerns about the company's small size and reliance on a single product line.

An intriguing alternative strategy for increasing WAN throughput is offered by XRoads Networks (www.xroadsnetworks.com). Instead of optimizing a single WAN link, XRoads incorporates multilink load balancing using a best-path routing algorithm and what it calls ActiveDNS to increase throughput and reliability. According to Daren French, XRoads' vice president of business development, a typical SME scenario might have a headquarters site using a higher-end model with two leased lines (T1 or better) or one T1 and two broadband connections with small branch offices employing one or two broadband links that can be load balanced across any of the main site's connections. Another feature that appeals to small offices is XRoads' optional integrated unified threat management module that obviates the need for a dedicated firewall or content filter. While the XRoads appliances do incorporate inline data compression, various TCP optimizations, and QoS, they don't include any local storage for data reduction.

Finding The Right Fit

High-performance networks are a critical utility for even the smallest businesses and branch offices. A slow or unreliable WAN link can mean as much lost productivity as a power outage. Addressing this need, a number of vendors have developed WAN optimization products that squeeze maximal performance out of these increasingly constricted pipes. This burgeoning market is brimming with innovation—with products suitable for a five-person office to the largest data center. However, as Forrester's Whiteley puts it, "Ultimately, this is a tightly contested market, and we urge [buyers] to focus on optimization, scalability, security, and mobility criteria to determine the most appropriate solution." P

Leading Products & Evaluation Criteria

A short list of vendors and products as surveyed by Forrester shows offerings from smaller, specialty vendors, such as Silver Peak, to networking powerhouses, such as Cisco and Juniper. Evaluation criteria focused on technology: The vendors have generally available support of multiprotocol byte- and object-level caching; multiprotocol compression; traffic management/QoS; and protocol acceleration of three or more protocols (HTTP, TCP, MAPI, CIFS, NFS, XML, etc).

Vendor	URL	Products
Blue Coat Systems	www.bluecoat.com	SG Appliances
Cisco Systems	www.cisco.com	Wide Area Application Services Content Engine Modules
Juniper Networks	www.juniper.net	WX platforms WXC platforms
Riverbed Technology	www.riverbed.com	Steelhead appliances Interceptor
Silver Peak Systems	www.silver-peak.com	NX series

How To Archive Email

Knowing What To Save & What To Throw Away

by Curt Harler

• • •

For many employees, using email is really only about two things: sending and receiving. But for enterprises as a whole, email is their lifeblood. It is essential to find a way to leverage and manage the data within emails so it can be easily searched and used. There are legal requirements, too, which must be met.

According to Dean Richardson, vice president of sales with ArcMail Technology (www.arcmailtech.com), businesses should archive all email. "You never know which email you will need down the road," he notes. Companies have saved thousands of dollars by finding just one email.

"We recently used [ArcMail's] Defender to find a project-related email that probably saved the company $25,000," says Rosemary Doerner, IT manager at Pinkard Construction.

"Emails should be archived in real time, as this provides a backup of all emails should the user suffer a catastrophic mail server crash and find themselves unable to restore some or all of their email," Richardson says.

The Legal Angle

Both the federal government and some states have laws regulating email. The two key federal laws are the Sarbanes-Oxley Act of 2002 and SEC (U.S. Securities and Exchange Commission) Rule 17a-4.

At the state level, there are various important laws regarding freedom of information, privacy, and notification that impact email, Mimosa Systems' (www.mimosasystems.com) Bob Spurzem says.

Both Spurzem and ArcMail Technology's (www.arcmailtech.com) Dean Richardson say the most important new law on archiving data is the Federal Rules of Civil Procedure's new amendments. Known as FRCP, it sets out federal guidelines. More information can be found on the Mimosa Web site at www.mimosasystems.com/html/ediscovery_frcp.htm.

Archiving will reduce potential legal risk, penalties, and fines, Spurzem says. An archive is a record of all email and attachments. Legally, FRCP requires the data is protected and stored in its original format, that it is accessible for legal discovery, and that it is retained according to company email policy.

Should litigation begin, all email records for the users involved should be retained, and all retention policies should be suspended so no disposition occurs while the case is active—that is, there is no destruction of evidence.

The Ins & Outs Of Archiving

Archiving all of a company's email in a central archive with fast search/retrieve and export capabilities allows a company to respond to discovery requests solely from its archive, saving the cost and inconvenience of desktop discovery and discovery from mail server backups, which are very time-consuming. And it's more than just email.

"The size of the company will have a strong bearing on what type of solution should be implemented. SMEs are typically companies with up to 1,000 seats, operating a Microsoft Windows environment possibly with MS Exchange server or running third-party software on the gateway. Thus, the IT administrator needs to identify a solution that can be installed on both exchange and gateway platforms and one that integrates with the company's existing IT infrastructure such as Active Directory and SQL Server," notes David Kelleher, global coordinator for GFI Software (www.gfi.com).

Examine questions such as: Will the company increase the number of mailboxes in the medium to long term? Must the company meet compliance requirements? Will it need to leverage SQL as an archiving store (or use NTFS on a separate server)? Can the solution carry out forensic auditing? Does it allow email retrieval on demand?

"SMEs are often cash-strapped with little or no IT budgets. Such limitations impact the email archiving strategy deployed. You need a solution that offers price-performance without affecting functionality. The solution must be user-friendly for both the IT administrator and the employee who needs to use it," Kelleher says.

"A key trend is the need to archive other 'unstructured' data types. Examples are IM, voicemail, office files, etc.," notes Bob Spurzem, director of product marketing at Mimosa Systems (www.mimosasystems.com). That is because all electronic data that office workers manage on a daily basis are a target for litigation and are largely unmanaged by organizations.

Many SMEs realize the value of email archiving as a productivity tool and as a means to move older email from their overloaded mail servers to a repository that is designed to store huge amounts of email and allow very quick search and access to that email.

Richardson sees SMEs opting for email archiving, not for particular compliance reasons but because their users want unlimited email storage without mailbox restrictions, and they want to be able to search their email quickly and find what they are looking for. With ArcMail's Defender, Richardson says, results are available in one to two seconds.

A good email archival solution should search, open, and recover an archived message within a couple of minutes, Spurzem says. "Admins can perform this task, or better yet, users should be able to do it themselves," he says. Kelleher agrees that the maximum recovery time should be minutes.

Time To Storage

Simply put, there are two schools of thought on archiving: keep everything and delete everything. "The tide is shifting towards 'keep everything,'" Richardson says. "When you delete your copy of an email, there is always at least one other copy out there, and often it is not within your control. Do you want to be the only one in court without a copy of your own email?"

There is no specific time that emails should be kept on a server before being offloaded to long-term archiving.

"Every email has a sender and at least one recipient. We have seen cases where companies had set destructive retention policies, and particular emails were used against them in court," Richardson says. These emails were kept by employees despite the destructive retention policy. Had the company archived all their email and had access to all the related emails (not just the ones that the plaintiff chose to keep), the outcome would have likely been different, he says.

Retention should be managed according to policy. "The shipping dock employee is treated differently than the president," Spurzem notes. "Email should be archived as soon as possible to ensure a copy is in the archive before it is deleted by an employee. Then the email archive manages each user mailbox according to its retention policy."

Kelleher says a big advantage of archiving is that it reduces the size of end users' mailboxes and, hence, the number of requests for more storage. "Since many employees may be reluctant to empty their mailbox and use the archives, an IT administrator may want to impose a 30- or 90-day storage limit," he adds.

There is no specific time that emails should be kept on a server before being offloaded to long-term archiving. "There is a different answer for everyone," Richardson says. "The drivers are regulatory, user preference, and best business practices."

Every SME has users who keep stuff forever. Richardson says an employee's email queue definitely should not be deleted. Spurzem says users should be allowed to keep email, according to their business needs, for as long as they need. "The archive is a repository of email that is managed for the organization's needs, while the personal mailbox of each user is managed by the user, according to his or her needs," he explains. "The archive should not dictate users' behavior with regards to email."

Most analysts recommend seven years as the lowest common denominator for keeping emails. "However, some companies choose to keep them longer if it is advantageous to do so," Richardson says. "Best case, you find the email that wins your case or that you can use to remind the other party of the conversation/transaction. Worst case, there is a damaging email that may hurt you."

In the worst case, deleting your copy of the email is rarely a solution because the opposing party will already have a copy of any damaging emails. "They rarely seem to have copies of emails that help your case," he notes. If you have every email, you can quickly determine where you stand and often find other emails that can put a damaging email in context or even prove your case, Richardson adds.

The Privacy Angle

Who owns the right to review and evaluate email left in a worker's mailbox? What about personal messages from Saturday night's hot date . . . or private, but derogatory or off-color, messages left by colleagues.

"This is a very hot debate," says GFI Software's (www.gfi.com) David Kelleher. Some companies argue that any email sent using the company network becomes its property, and therefore management has a right to check employees' mailboxes. On the other hand, privacy rights groups argue that checking an employee's email breaches his rights.

Employees might have the notion that once they delete an email, it is gone forever, but that's not the case. They often don't think of the ramifications of using email to send off-color jokes or other content that may be problematic from a company liability point of view.

"Once an archive is introduced (as a productivity tool, not a Big Brother tool), employees realize that their email is permanent, and they adjust their behavior accordingly (Do I really want to send that email, knowing it will be archived?), which reduces company liability," Dean Richardson of ArcMail Technology (www.arcmailtech.com) says.

"At the end of the day, it is a question of trust," Kelleher says. If there is a possibility that an employee is no longer loyal to the company or that he is abusing the system or sending out sensitive material to third parties, then management should have the right to check and verify if any wrongdoing has been committed, he says.

"Every state, every country has its own rules and regulations regarding email archiving and email use. . . . And they are not limited to federal regulations," Kelleher says. Be aware of all of the regulations before setting policy or acting against a worker.

Balancing Act

Continued from Page 24

to larger enterprises with the resources to dedicate personnel to a specific system. Additionally, all-in-one solutions from strategic vendors are more economical. "If you would try to integrate all of the point solutions yourself, it would be more expensive than if you bought a fully integrated solution that addresses multiple threats," says Antonopoulos.

Ranum believes that organizations choose budget over risk when choosing to go with a strategic security vendor. "It's more because they get better price leverage. Most businesses prefer to use a strategic vendor because of reasons that have nothing to do with making it more secure," he says.

But Nemertes' research found that the primary challenge for organizations is to effectively operationalize their existing security tools. "What that means is that they may have all these fancy alerts and notifications coming out of their systems and lots of monitoring going on, but there are no trained people watching it," explains Antonopoulos. He argues that a single vendor may not have the defense-in-depth technology, but it's a moot point if a strategic solution offers better utilization and management. He also notes that due to the multiple interoperable tools within a single solution, there is still defense-in-depth thanks to the added advantages of having a single place and process for management and reporting, as well as a single point of contact for support. "You could make your environment much more heterogeneous to make sure it's harder to break through the barrier of layers, but then you can't manage it because it's too heterogeneous," says Antonopoulos.

UTM appliances and all-in-one security suites have been finding favor, especially in SMEs.

WHAT'S HAPPENING

BigFix It

Bring Real-Time Visibility Into Your Infrastructure

by Julie Sartain

• • •

REMEMBER WHEN YOU (and/or your staff) roamed from computer to computer taking inventory and recording each computer's software, hardware, and various configurations? Based on company size, this task could take many months and usually resulted in outdated data by the time you were finished. It always seemed like the computer you just recorded was the one next in line for a facelift or a buff and shine. And when employees traded hardware or shared software, this made the already impossible task even harder because these things are never documented anywhere.

BIGFIX®

BigFix (www.bigfix.com) provides a single program that provides accurate, real-time visibility into your infrastructure. Press a few keys, and you can see every system's configuration, software, hardware, location, and more. Network administrators are no longer required to travel across the building, the city, the country, or even the planet to track and inventory user machines—or to install, upgrade, patch, or manage asset life cycles on those same machines.

"We enable enterprises to continuously enforce IT security, IT policy compliance, and systems management on all computers—anytime, anywhere," says Greg Toto, vice president of engineering at BigFix. "BigFix is designed for highly distributed and complex IT infrastructures. It delivers real-time endpoint visibility and control through its single-agent, multifunction, on-demand architecture."

How It Works

According to Toto, BigFix is a scalable, distributed processing system designed to continuously discover, assess, remediate, and enforce the health and security of distributed enterprise computers. It functions in real time via a single, policy-driven agent. BigFix's patented technology distributes computing power throughout the enterprise using the lightweight, multifunction, intelligent Agent to provide a level of visibility and control unparalleled in legacy solutions.

"It also offers significant advantages in timeliness, flexibility, and scalability while reducing the infrastructure and training costs associated with traditional systems and security management," says Toto. "BigFix is a revolutionary technology that will fundamentally change the way IT functions."

This unique single-agent service delivery architecture installs the BigFix Agent on each endpoint, ensuring zero-tolerance enforcement for all IT policies and real-time execution of reporting and configuration management functions, adds Toto. Beyond the preconfigured solution packs, BigFix's Relevance Language allows customers to create custom policies and services for endpoint execution by the BigFix Agents.

"By distributing the policies and intelligence to the devices themselves, BigFix achieves outstanding scalability, accuracy, and unprecedented response times while consolidating previously discrete services and processes into a unified security and systems management approach," notes Toto.

"IT organizations need to migrate to a new kind of security and system management platform urgently," says Toto. "The new model platform will combine radical improvements in ability to see and control IT assets and data in real time while consolidating and reducing infrastructure management costs. In transforming IT infrastructure management, the new platform will change the long-standing imperative of 'doing more with less' from a recipe for compromise to a gateway of new levels of management and value generation."

According to Toto, research and development efforts are currently focused on mobile security, expanded OS provisioning, expanded application virtualization, and active management. Highly distributed organizations are struggling to provide security for their mobile workforces and continuous management of all endpoint devices.

BigFix's primary target markets are struggling with legacy solutions and standalone security tools that are static, inflexible, and incapable of real-time visibility and control of computing assets across an entire global organization, notes Toto. BigFix complements incumbent technologies and solutions without adding overhead; for example, one BigFix server can easily manage more than 100,000 endpoints. IT security and operations management can centrally manage all assets from a single console.

In A Class By Itself

The key, fundamental difference that sets BigFix apart is its approach to security and configuration management. "It's the technology's ability to distribute the evaluation process to each managed end node rather than to rely on a central server to determine security or configuration issues," says Toto. In contrast to all other solutions that rely on server-side evaluation to identify problem conditions, the local evaluation of the managed end node by the BigFix Agent reduces the risk of exposure to security vulnerabilities and misconfigurations, he adds.

"Unlike the legacy products that 'morphed' into systems management tools by attempting to piece together a disparate set of point solutions, BigFix was designed specifically to address the visibility and management needs of distributed, multiplatform computing environments by providing real-time information from each managed computer combined with granular, policy-based controls to effect change with minimal impact to the end-user experience, as well as network and administrative resources," says Toto.

Toto also notes that BigFix offers a comprehensive and scalable solution that addresses customers' configuration management project objectives to expedite repair times, minimize travel time, reduce costs, and standardize configurations. At the heart of BigFix lies the powerful, secure, agent-based BigFix platform that enables highly targeted, real-time PC life cycle management from acquisition and configuration to policy enforcement and disposition, adds Toto.

According to Toto, the primary advantages of BigFix include automated policy-driven enforcement, remediation, and control; unified security and IT management solutions for real-time visibility and control; cross-platform device management (on or off your network); massively scalable, extensible, and lightweight architecture; multifunction single agent that consolidates and manages third-party apps; rapid deployment; and ease of use and management.

Future Plans

BigFix Platform 7.0 is scheduled to ship in the third quarter. This product includes unified endpoint security and operations management; pervasive real-time visibility and control across all endpoints; OS provisioning extension; virtualization (VMware support); secure remote control; and aligning and auditing against industry standards, such as NIST, CIS, and STIG.

"BigFix was designed to thrive in an unpredictable environment—not to cope with a world that's expected to come to pass. Rather than address problems of immediate concern, we prefer to build a platform that creates an infrastructure and methodology for problem solving—whatever those problems may be. The BigFix technology changes the traditional enterprise systems management paradigm," concludes Toto. P

THREE QUESTIONS

Power Management & Control

Server Technology Keeps Data Center Assets Up & Running

by David Geer

SERVER TECHNOLOGY, aka STI (servertech.com), a leader in remote power management, has been providing the data center with power management products since 1984. "STI is the company that introduced Input Current Monitoring by reporting the True RMS Input Current load for each power circuit via digital display," says Andy Szeto, the company's senior product manager.

Today, the Reno, Nev., company designs, builds, and distributes intelligent CDUs (Cabinet Power Distri-bution Units). The CDUs offer IP-based power management with console access, input current power monitoring, branch circuit protection, and environmental monitoring.

■ What are the biggest IT-related issues facing today's small to midsized enterprise?

Szeto: In our industries, the biggest challenges faced by businesses today stem from the growing demand for computing power and higher densities, which result in greater power demands that many facilities and colocations cannot keep up.

As companies upgrade or build out their data centers, they are faced with decisions about how to distribute power from their PDUs (power distribution units) to the room level and on down to the cabinet level. They must do this to provide sufficient cooling, remote device management at the rack level, and legacy equipment support. (Power distribution for blade servers and high-density installations poses a particular problem for IT staff.)

One of the challenges lies in minimizing the number of power feeds required by each cabinet. Because most power feeds come up from a raised floor, minimizing that number will improve airflow. For data centers located in a leased location, there is a fixed cost per power drop regardless of power usage. Fewer power feeds equals savings on these fixed power costs.

Redundancy is another issue. How does the data provide power for two- and three-corded power supplies, support single-cord devices in case of power loss, and minimize the number of power drops needed when a data center is at a colocation?

Secure remote power management is in growing demand. As the number of devices increases, the ability to remotely cycle power to a locked up device in a secure environment with user access levels becomes a necessity.

■ What should *Processor* readers know about your company's products?

Szeto: STI designs and manufactures one of the most comprehensive lines of cabinet power distribution units (CDU) ranging from -48V products for Telcos to single-phase power (110V, 208V, 230V) and three-phase power products (208V and 400V). The product line supports currents up to 60A for both domestic and overseas markets.

The leading product line is the Sentry Switched CDU. The Switched CDU offers the ability to cycle power to an individual outlet or group of outlets. The Sentry Switched product comes with network and serial access and two temperature and humidity probes.

The Switched product employs a graceful shut-down agent to allow servers to save critical files prior to shutting down and a Smart Load Shedding feature that turns outlets off when the UPS goes on battery backup or the temperature or current draw exceeds a user-defined threshold.

STI manufactures three other product lines: One is for customers who need to monitor their power usage over the network, and the others are our simple metered and basic unit lines. The company also manufactures a range of cabinet fail-safe transfer switches for single corded devices.

■ What makes your company unique?

Szeto: STI is a nimble company that reacts quickly to customer demand. STI has grounded many of its current products in the needs of past clients. With one of the largest engineering staffs in the industry, we are in a constant mode of improving and innovating our products.

We provide excellent pre- and post-sales support to ensure our customers have the right products for their applications. We encourage our customers to evaluate our products for 30 days before making a purchase.

PROCESSOR®

The Same Great Product News & Information– Available In **Print** & **Electronic** Version!

ASA COMPUTERS

Want your business to be more productive?

The ASA Servers powered by the Dual Core Xeon processor provide the quality and dependability to keep up with your growing business.

Hardware Systems For The Open Source Community-since 1989

(Linux, FreeBSD, NetBSD, OpenBSD, Solaris, MS, etc.)

Product Feature

-Rack solid quality rackmount system with excellent cooling.
-Custom OS including Linux, Solaris*BSD, MS Windows, Suse, Debian, etc.
-Hardware and software RAID storage.
-High density cluster nodes.
-SATA-SCSI-SAS-Fiber Raid.
-iSCSI and NAS storage appliances.
-High end custom workstations.
-On-site warranty support for most of our products.

1U Dempsey/Woodcrest Storage server starts at-$1,841

-1TB Storage installed. Max-3TB.
-Intel Dual core 5030 CPU (Qty-1), Max-2 CPUs.
-1GB 667MGz FBDIMMs installed.
-Supports 16GB FBDIMM.
-4X250GB htswp SATA-II Drives installed.
-4 port SATA-II RAID controller.
-2X10/100/1000 LAN onboard.

2U Dempsey/Woodcrest Storage server starts at-$3,591

-3TB Storage installed. Max-9TB.
-Intel Dual core 5050 CPU (Qty-1), Max-2 CPUs.
-1GB 667MGz FBDIMMs installed.
-Supports 16GB FBDIMM.
-12X250GB htswp SATA-II Drives installed.
-12 port SATA-II RAID controller
-2X10/100/1000 LAN onboard.
-500W Red PS.

3U Dempsey/Woodcrest Storage server starts at-$4,191

-4TB Storage installed. Max-12TB.
-Intel Dual core 5050 CPU.
-1GB 667MGz FBDIMMs installed.
-Supports 16GB FBDIMM.
-16X250GB htswp SATA-II Drives installed.
-16 port SATA-II RAID controller.
-2X10/100/1000 LAN onboard.
-800W Red PS.

Custom OEM Solution

-Custom chassis design per your needs for your appli-ances.

-Custom logo printing.

-Facilitating in getting various certifications like FCC/UL/CE, etc.

-Custom installation of your images.

-Drop ship on your behalf.

5U Dempsey/Woodcrest Storage server starts at-$6,451

-6TB Storage installed. Max-18TB.
-Intel Dual core 5050 CPU.
-1GB 667MGz FBDIMMs installed.
-Supports 16GB FBDIMM.
-24X250GB htswap SATA-II Drives installed.
-24 port SATA-II RAID. CARD/BBU.
-2X10/100/1000 LAN onboard.
-930W Red PS.

Technical Expertise

We have a highly qualified technical and engineering team consisting of Redhat, BSD, MCSE, CCNA and CNE certified engineers. They are dedicated to address any questions you may have with our hardware products. Our sales engineers are experts in providing you solutions that suit your needs while keeping your budget low. .

8U Dempsey/Woodcrest Storage server starts at-$10,811

-10TB Storage installed. Max-30TB.
-Intel Dual core 5050 CPU.
-Quantity 42 installed.
-1GB 667MGZ FBDIMMs.
-Supports 32GB FBDIMM.
-40X250GB htswap SATA-II Drives installed.
-2X12 Port SATA-II Multilane RAID controller.
-1X16 Port SATA-II Multilane RAID controller.
-2X10/100/1000 LAN onboard.
-1300W Red PS.

We provide approved EVAL server for 10 days.

Why Do Business With ASA?

Since 1989, ASA has served customers like Cisco, Juniper, Caltech, Fermilab and most Universities. We provide total custom solutions with OS of your choice. Excellent pre-sales and post-sales support. Reliable hardware at most competitive prices. Please call or contact us for your next hardware purchase.

1-800-REAL-PCS

360 Technologies **HP Sales and Rentals**

HEWLETT PACKARD Channel Partner

Toll Free: 888-883-0360

BUY • SELL • RENT • LEASE • REPAIR

• SPECIALS •

C6751A	OfficeJet K80XI	$85	Q1273A	DesignJet 4000 42”	$8,995
C8392A	7110XI AIO	$145	C1316A	9100C Digital Sender	$1,195
C9660A	LaserJet 4600	$750	Q5916A	9200C Digital Sender	$1,975
C6075B	DesignJet 1550CM+ 36”	$6,995	C6074B	DesignJet 1050C+ 36”	$5,495

Color LaserJets

C3985A	LaserJet 8500DN	$1,895
C4089A	LaserJet 8000DN	$495
C9661A	LaserJet 4600DN	$750
C9795A	LaserJet 2500L	$345
C7086A	LaserJet 4550N	$545
C7087A	LaserJet 4550DN	$650
C7098A	LaserJet 8550DN	$1,495
C7131A	LaserJet 5500N	$2,350
C8546A	LaserJet 9500N	$4,750
C8547A	LaserJet 9500HDN	$5,500
C9658A	LaserJet 5500DTN	$2,495
C9659A	LaserJet 5500HDN	$2,795
Q1320A	LaserJet 3500N	$695
Q1323A	LaserJet 3700N	$1,295
Q2488A	LaserJet 1500L	$395
Q3670A	LaserJet 4650DN	$2,095
Q3702A	LaserJet 2550L	$275
Q3716A	LaserJet 5550DTN	$3,375

Plotters

C4709A	DesignJet 750C+ 36”	$1,895
C3198B	DesignJet 755CM 36”	$2,095
C7789C	DesignJet 800PS 42”	$4,795
C6075A	DesignJet 1055CM 36”	$4,995
C4703A	DesignJet 2000CP 36”	$1,995
C6019A	DesignJet 5000PS 42”	$5,295
Q1254V	DesignJet 5500PS 60”	$11,995
Q1274V	DesignJet 4000PS 42”	$10,995

Call for all New and Used HP Equipment!

LaserJets

C2001A	LaserJet4	$175
C2037A	LaserJet 4+	$195
C2039A	LaserJet 4M+	$325
C3166A	LaserJet 5SI	$495
C3167A	LaserJet 5SI MX	$495
C3916A	LaserJet 5	$250
C3917A	LaserJet 5M	$295
C4110A	LaserJet 5000	$695
C4118A	LaserJet 4000	$295
C4120A	LaserJet 4000N	$325
C4252A	LaserJet 4050T	$395
C4254A	LaserJet 4050TN	$445
C4265A	LaserJet 8150	$595
C4266A	LaserJet 8150N	$595
C4267A	LaserJet 8150DN	$795
C8049A	LaserJet 4100	$495
C8050A	LaserJet 4100N	$595
C8051A	LaserJet 4100TN	$695
C8052A	LaserJet 4100DTN	$895
C8521A	LaserJet 9000DN	$2,795
C8253A	LaserJet 9000MFP	$4,795
C9124A	LaserJet 3300MFP	$325
C9148A	LaserJet 4100MFP	$1,295
Q1860A	LaserJet 5100	$895
Q1861A	LaserJet 5100TN	$1,095
Q2425A	LaserJet 4200	$695
Q2426A	LaserJet 4200N	$795
Q2428A	LaserJet 4200DTN	$1,295
Q2432A	LaserJet 4300N	$1,095
Q3723A	LaserJet 9050DN	$2,995
Q3942A	LaserJet 4345MFP	$2,250

• All above equipment is refurbished and carries a 90-day parts & labor warranty.
• Visa, MasterCard & American Express accepted.
• Many orders shipped the same day!

360 Technologies Inc.
15401 Debba Drive Austin, TX 78734
www.360tech.com
Info@360tech.com

Toll Free: 888-883-0360 Tel: 512-266-7360 Fax: 512-266-7366 IM: HPat360

GPS GLOBAL PRINTER SERVICES INCORPORATED

HP Color LJ 4700DN $1079

HP LJ 4250N $699

HP LJ 9000 $999

The Resellers Resource
All printers include parts and labor warranty. This is only a small sample of what we have in stock. Please call for price and availability for other models, accessories and parts.

Over 150 different HP LaserJet printer models in stock!

Buy your HP laser printers from the industry leader. When you purchase a printer from GPS you are buying the best refurbished printers available. We offer a one year warranty on printers and free technical support for the life of the printer. We can provide you with a specific model you are looking for or one of our experienced staff can help you select the printer that will best meet your needs. Your satisfaction is our number one priority, so if you are not completely satisfied with your purchase you can return your printer for a full refund.

Resellers Welcome.

#1 Source for Printers

800-588-3554 • 608-268-4300
www.globalprinter.com • Free Tech Support

CompuSourceTech
Your Source for laser printers

Toll Free: 866-725-4100
Phone: 614-444-4438
Fax: 614-449-5649
www.compusourcetech.com

HP IBM LEXMARK

Model	Price	Model	Price
HP 2280TN	$349.00	HP 4550	$449.00
HP 2300DTN	$449.00	HP 4650DN	$999.00
HP 1220	$249.00	HP 4700N	$1.399.00
HP 1300	$169.00	HP 5000N	$449.00
HP 1320N	$499.00	HP 5100	$899.00
HP 2200D	$249.00	HP 5500DN	$1,399.00
HP 2300D	$349.00	HP 5550DN	$2,199.00
HP 2420	$529.00	HP 9100C	$1,199.00
HP 2430N	$725.00	HP 4100MFP	$849.00
HP 3015	$325.00	HP 4101MFP	$1,399.00
HP 3030	$349.00	HP 4345MFP	$1,999.00
HP 4000	$199.00	HP 9000MFP	$1,999.00
HP 4050TN	$299.00	HP 9040MFP	$3,999.00
HP 4100	$275.00	HP 9050MFP	$4,449.00
HP 4200	$425.00	HP 9500MFP	$4,449.00
HP 4250	$699.00	Lexmark T630N	$649.00
HP 4300	$699.00	Lexmark T640N	$599.00
HP 4350N	$1,149.00	Lexmark E332N	$369.00

We are an authorized reseller for New and Refurbished HP, IBM, Oki Data, and Lexmark Printers
Call for our complete list of printers and accessories!

A WINNING COMBINATION

How Do You Research & Make Your Buying Decision?

The proven track record of *Processor's* print issue and Web site offer an unbeatable combination!

When you're looking for product or buying information, turn to the print issue for a wide variety of current products from our list of hand-selected manufacturers and resellers.

Once you're ready to buy, turn to our Web site to connect with companies offering the products and services you need.

PROCESSOR

FOR MORE INFORMATION CALL: (800) 247-4880
INTERNATIONAL CALLS: (402) 479-2141
OR CONTACT US ON THE WEB:
www.processor.com

$$ CASH $$** **$$ CASH $$

media recovery
Datacenter products and services

WANTED!

Magnetic Tape Media:
9940 • 9840 • 3590 • LTO • SDLT

Please Contact
Al Bass
214-630-9625
abassignani@mediarecovery.com

Visit our new web site at: www.mediarecovery.com

$$ CASH $$** **$$ CASH $$

Overwhelmed By NetApp® Support Costs?

Zerowait's prices for service, support and parts will help you shrink the cost of legacy system support down to size!

THE AFFORDABLE ALTERNATIVE TO NETAPP
CONTACT US TODAY FOR A COMPETITIVE QUOTE!

ZEROWAIT
888.811.0808
WWW.ZEROWAIT.COM
SALES@ZEROWAIT.COM

InBus Has Intel Boards & Systems!

InBus Engineering
Has the *World's Largest Inventory*
of Hard-to-Find
Intel Boards and Systems

60,000 Square Foot Facility: Repair -- Testing -- Burn-in
Two Decades of Intel Products and Service
Intel OEM PC Desktops and Servers
Experienced Engineering Staff Provides Expert Technical Support
Same Day Delivery
Warranty On All Products and Services
We Purchase Excess Inventory

Call (925) 454 -2546

InBus ENGINEERING
www.inbus.com
6233 Industrial Way, Livermore, CA 94550, Tel (925) 454-2500 Fax (925) 454-2501

BUY & SELL
HARD DRIVES
FLOPPY DRIVES • CDROMS • CONTROLLER CARDS
New/Used/Pulls • Notebook/Desktop/Servers
All interfaces and capacities
www.drivesolutions.com
818-718-6900 Ph, 818-718-6100 Fax
email: sales@drivesolutions.com or purchasing@drivesolutions.com

Buy&Sell Cisco
USED ROUTERS, SWITCHES, & NETWORK HARDWARE

Domestic Toll Free
1-888-443-3852
www.dni-llc.com

datanetworks INTERNATIONAL
YOUR NETWORK'S BEST FRIEND, IN THE WORLD™

Tel. 1-973-486-0440 / Fax. 1-973-486-0445 / E-mail: pr@dni-llc.com
90 -100 Route 206, #290 Stanhope, NJ 07874

EQUIPMENT MANAGEMENT, INC
Phone: (978) 534-2074
Fax: (978) 534-5574
Email: rob@emisolutions.com rico@emisolutions.com
WEB: www.emisolutions.com
42 Jungle Road, Leominster MA 01453

401930-001 MOTHER BOARD	$1795	311242-001 CPQ System Board SW3900	$14900
AD599A HP MSL6030 CR 2-ULTRIUM 460 DRIVE LIBRARY-RACK	$6900	A5583A HP SURESTORE E 1/20 RACK LIBRARY-OPAL	$1650
154850-002 CPQ ESL9322 BACKPLANE MODULE	$4900	283056-B21 SANSWITCH 2/16-EL	$1900
331196-B21 CPQ MSL6060 2-DRIVE LIBRARY RACK	$7900	287055-B21 SAN SWITCH 2/16	$3900
A4688A HP SURESTORE E BRIDGE FC 4/1	$2900	• Immediate Availabiltiy • Lowest Prices • Blind Shipment	

• TERMINALS • MEMORY • PRINTERS
• DRIVES • PERIPHERALS • CPU'S
• CONTROLLERS and MORE
A minority owned business

BUY, SELL, TRADE ALL BRANDS.....!

PRINTRONIX®
QMS®
New & Refurbished
PRINTERS
SPARE PARTS • EXCHANGES • SUPPLIES
TW-AX • CO-AX • IGP™
QMS® Magnum®
Data Reliance Corporation
"Your Reliable Printer Source"
www.datareliance.com
Ph: 574-935-9550 Fx: 574-935-9555

CISCO NORTEL
NEW • USED / BUY • SELL
NORTEL
AIRMAGNET
FORTINET
REAL TIME NETWORK PROTECTION
airwave
bluesocket
CISCO SYSTEMS Registered Partner
Special
Nortel BPS 2000 switch
NLE Good as New $395.00
symbol
The Enterprise Mobility Company™
• Trade-ins welcome!
• Authorized service contracts available
• Full Warranty on all products!
• Role-Based networking experts!
• Proactive threat management!
NLE
888-8LANWAN
Call for Free Quote! (888-852-6926)
801-377-0074
Visit Us On the Web At: www.nle.com
Fax Equipment List To 801-377-0078

Regent Sales Inc.
www.regentsales.com
800-657-9555
Phone: (817) 249-9950
Fax: (817) 249-9069
Email: Sherisa@regentsales.com
BULLSEYE!

15K, 146GB HDD Pluggable	347708-B21	$495.00
15K, 72GB HDD Pluggable	286778-B22	$319.00
15K, 72GB HDD Pluggable	3R-A3851-AA	$325.00
10K, 300GB Pluggable	350964-B22	$575.00
10K, 300GB Pluggable	3R-A4952-AA	$595.00
10K, 146GB Pluggable	286716-B22	$345.00
10K, 146GB Pluggable	3R-3841-AA	$345.00
HP MSL6000 ULTRIUM 460 DRIVE AD605A		$2,900.00
FCA2214 2GB 64BIT 133MHZ PCI-X 281541-B21		$685.00
48 Port 10/100 Switch Enhanced OsWS-C2950G-48-EI		$2,345.00
24 Port 10/100 Switch Enhanced OsWS-C2950G-24-EI		$1,370.00
LTO3 Data Cartridges D2406-LTO3		$71.85
SDLT Media Bar Code Reader SG-XBARCODES-L8		$825.00

Regent Sales, Inc., Your "On Target" Choice For New, Used & Refurb Equipment
IBM Business Partner
authorized reseller
hp invent
COMPAQ® ProLiant • Alpha • StorageWorks • Digital
Cisco Systems Reseller
Quality • Integrity • Value

E.L.I.
Call for a Quote Today!
• Quick Shipping
• In-house Technical Staff
• International Shipping
Phone 800-447-1156
617-547-4005
Fax 617-354-1417
E-mail sales@eli.com
288 Norfolk Street
Cambridge, MA 02139
For our complete online catalog go to www.eli.com
SUN MICROSYSTEMS
Sun Fire
Sun Blade
StorEdge
3310/3510 Array
Sparcs
CPUs
Drives
Memory
Entry/Midrange Servers
DEC/HP
Alpha
DecServers
Comm. Gear
VAX
Memory/Disks
CISCO
Routers
Catalyst Series Switches
Network Modules
Pix Firewalls
Port Adapters
VPN+ Security Product

www.ccny.com
Computer Connection of Central New York, Inc.
For all your IT Network & Security Needs
BUYS / SELLS / TRADE-IN / SERVICE / NEW / USED
Sun microsystems
COMPAQ
Cisco Systems
FORTINET REAL TIME NETWORK PROTECTION
ArrayNetworks
BLUEARC
800-566-4786
purchasing@ccny.com
sales@ccny.com

WE BUY ALL NORTEL
NORTEL
We also buy Cisco, Juniper, 3Com, and Foundry
Phone: (800) 503-1349
sales@networkrs.com
NRS

ISM INTERNATIONAL SYSTEMS MANAGEMENT INC
800.421.6572
Ph: 770.840.8994 • Fax 770.840.9228
www.ismweb.com • info@ismweb.com
IBM iSeries • IBM pSeries • Sun • HP9000 • Cisco
We Buy, Sell, Lease and Provide Short and Long Term Rentals
90 Day Warranty on All Refurbished Systems, Memory, Disk & Parts
Call Us To Save Up To 90% On Used Certified Equipment!
CALL ISM FOR ALL YOUR MIDRANGE COMPUTER NEEDS!

dbg Digital Brothers Group
DEC-Compaq-Cisco-Sun-SGI
770-931-7732
Fax 770-931-9416
www.dbgweb.com
salesp@dbgweb.com
AlphaServer GS160 Model 16
Base System for OpenVMS
• DY-160CG-AA
• One Alpha 21264 Processor 1224 MHz
• Four Quad Building Blocks
• One 14-Slot PCI Shelf
• OpenVMS Operating System License
ALSO AVAILABLE:
• Additional 1224 MHz CPU w/SMP
• Additional Memory
• Additional PCI Shelves
• Additional PCI Options
Call or E-Mail For Pricing
2 SYSTEMS IN STOCK!
Authorized COMPAQ® Reseller
WE WILL BUY YOUR USED HARDWARE!

WE BUY AND SELL
VECMAR Computer Solutions
hp NCR OKI PRINTRONIX TallyGenicom WYSE

NCR and HP Servers, Systems, Parts and Upgrades
New and Refurbished OKI, TallyGenicom and Printronix Printers
New and Refurbished WyseThin Clients and General Purpose Terminals
Call Toll-free 800.457.8499

PROCESSOR®

Subscribe Today!
Call (800) 819-9014
or
Subscribe Online!
Go to www.Processor.com

We Buy Used Cell Phones
& pay up to $50 for each phone!
Some phones have no value. See current purchase price list for individual model prices at www.pacebutler.com
www.pacebutler.com
1-800-248-5360 • (405) 755-3131

COMPUREX SYSTEMS CORPORATION
Serving the IT Industry for 20 Years
(800) 426-5499
508-238-8250 FAX
www.compurex.com
WANT TO BUY
• HP • COMPAQ • DEC
• OFF-LEASE
• SURPLUS/EXCESS
• END OF LIFE
BUY • SELL • LEASE • RENT • REPAIR

ITT Information Technology Trading
Ph: (877) 715-3686
Fx: (405) 715-3682
www.itechtrading.com
We Buy, Sell and Lease IBM
AS/400 • RS/6000 • Servers
System Upgrades
Advanced 36 Systems
Tape Subsystems
Printers, Terminals, Modems
21 Years Experience
IBM®
We Also Buy All Other Brands of Computer Hardware!

WE BUY TAPE!
DLT-LTO-AIT-AME-DDS-QIC-3480-3590-9840-Etc.
New & Used - All Types of Data Tape Media
Certified DATA DESTRUCTION Assured
World's #1 Tape Buyer is The Data Media Source
Highest values paid - Free pick-up at your site
1-800-252-9268 www.datamediasource.com

RapidNet

PRE-TERMINATED,

PRE-TESTED,

PRE-ANYONE ELSE.

PROVEN IN THE FIELD

PROVEN PERFORMANCE. PROVEN RELIABILITY. RAPIDNET. When it comes to pre-terminated network cabling solutions, HellermannTyton is the leader. Pioneering the first Category 6 pre-terminated network cabling system, HellermannTyton has, for years, delivered successful RapidNet installations across the globe – including leading US data centers in government, financial, healthcare, educational and enterprise applications. RapidNet is available in copper and fiber modular configurations and offers the time tested performance and reliability required for system critical applications. Assuring on-time project completion in the most demanding circumstances, **RapidNet has been verified to reduce installation time by 85% over traditional methods.** RapidNet has been proven in the field, now let us prove to you how RapidNet can enhance your business. Go online for more information and register for your free "Proven in the Field" t-shirt, www.hellermann.tyton.com/pro

phone: [800] 822 4352
email: info@htamericas.com
www.hellermann.tyton.com/pro

HellermannTyton